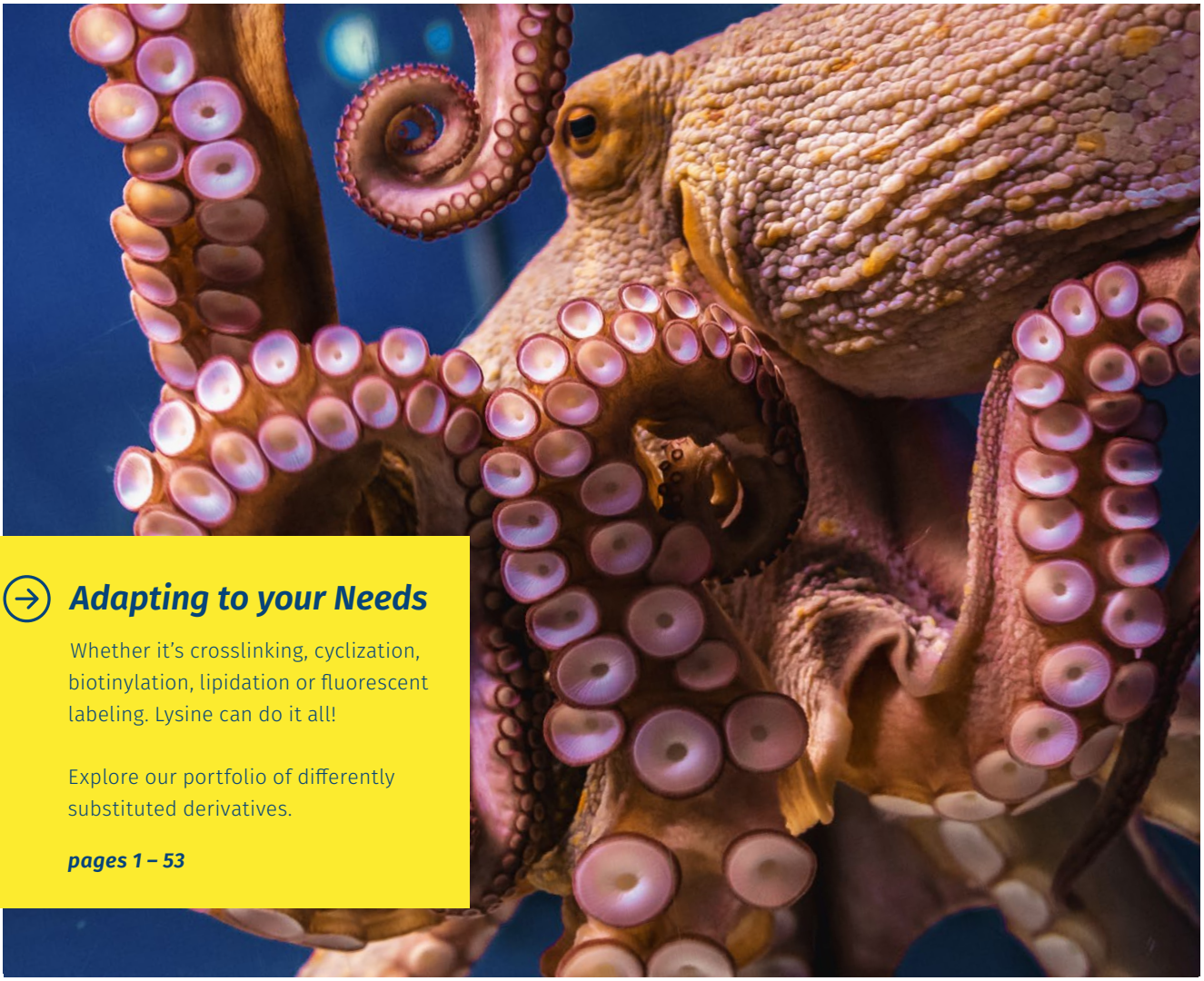
LYSINE

Simplify Peptide Modifications



Adapting to your Needs

Whether it's crosslinking, cyclization, biotinylation, lipidation or fluorescent labeling. Lysine can do it all!

Explore our portfolio of differently substituted derivatives.

pages 1 – 53

Version: IF23_1

Lysine

Simplify Peptide Modifications

N-terminal Protecting Groups

Choosing the right N-terminal amine modification is crucial for successful peptide synthesis, as it influences both the efficiency of the synthesis and the final properties of the peptide. Depending on the synthesis strategy, different protecting groups or free amine options may be selected to achieve optimal results.

The most commonly used N-terminal protecting groups are fluorenylmethoxycarbonyl (Fmoc) and *tert*-butyloxycarbonyl (Boc), which provide reliable, well-established deprotection conditions for both solid-phase and solution-phase peptide synthesis. Fmoc allows for base-sensitive deprotection, while Boc offers acid-sensitive deprotection, giving researchers flexibility based on their synthetic needs. For those seeking alternative strategies, we also offer less commonly used protecting groups such as benzyloxycarbonyl (Z), which is more stable and can be cleaved under hydrogenation, and α-azido (N_3), a useful tool for orthogonal protection and click chemistry.

Other specialized options include the water-soluble Smoc (disulfo-Fmoc) and ivDde (1-(4,4-dimethyl-2,6-dioxocyclohex-1-ylidene)isovaleryl) or Dde (1-(4,4-dimethyl-2,6-dioxocyclohex-1-ylidene)ethyl), which allow for selective N-terminal deprotection under mild conditions. In addition, we feature acetyl (Ac) or allyloxycarbonyl (Alloc/Aloc) groups for N-terminal modifications, depending on the requirements for reversible protection or stability during synthesis. Whether opting for classical or specialized protecting groups, our broad selection ensures that you can tailor your strategy to your specific research goals.

C-terminal Protection/Activation

When selecting the right modification for the C-terminus in peptide synthesis, it's important to consider how the modification will impact the synthesis, stability, and overall properties of the peptide. While most of our building blocks are available as free acids, which are widely used in solid phase peptide synthesis, certain projects may benefit from more specific C-terminal modifications.

Commonly used modifications include methyl (OMe) or *tert*-butyl esters (O*t*Bu), which protect the carboxyl group and can be easily removed. For more advanced applications, C-terminal modifications such as OAll (allyl ester) and OBzl (benzyl ester) might be suited, which are ideal for selective deprotection strategies.

In addition, functional C-terminal modifications like pNA (*para*-nitroanilide), OSu (N-hydroxysuccinimide), or ONp (*para*-nitrophenyl ester) may be more suitable for specific biochemical assays, cross-linking, or coupling reactions. These modifications enable you to fine-tune your peptide behavior, enhance detection capabilities, or facilitate conjugation with other molecules.

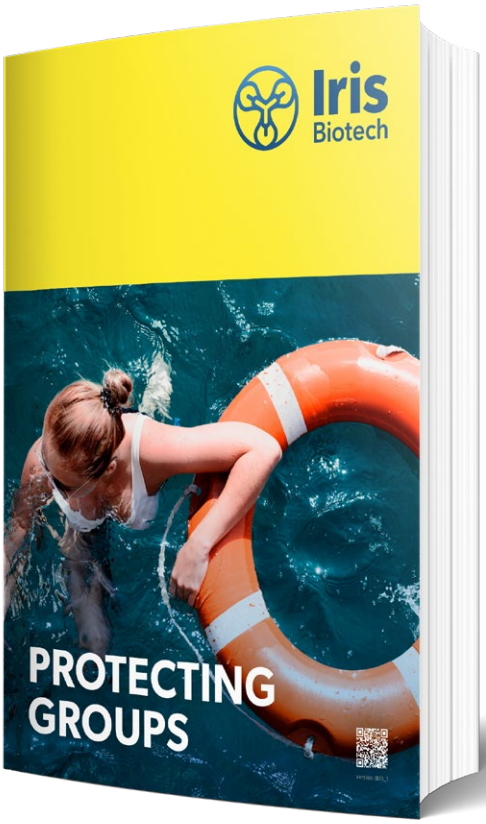
Side-Chain Protecting Groups

Our catalog offers a wide range of lysine protecting groups, tailored to suit various synthetic strategies. For standard protocols, we provide classic protecting groups such as Fmoc, Boc, and Z, which are widely used for their reliability and compatibility in peptide assembly. For those looking to employ orthogonal cleavage strategies, Mtt (methyltrityl) and Mmt (monomethoxytrityl) protecting groups offer selective deprotection under mild conditions, allowing for precise control over the synthesis process.

In addition, we offer hydrazine-cleavable groups like ivDde, MeDmb (methyl-1,3-dimethylbarbituric acid), and ivDmb (isovaleryl-1,3-dimethylbarbituric acid), which provide more flexibility in protecting side-chains that need selective removal without affecting the peptide backbone. These are particularly useful when synthesizing complex peptides or multi-step modifications. Furthermore, we feature additional protecting groups such as Trt (trityl), oNB (*ortho*-nitrobenzyl), Dnp (dinitrophenyl), and Teoc (trimethylsilylethoxycarbonyl), each offering unique advantages depending on the peptide's specific requirements.

Having still trouble finding the right protecting group for your strategy?

Check out our dedicated brochure Protecting Groups for a more detailed overview of our full range of protecting groups and their applications!



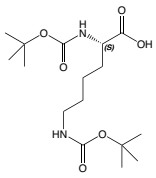
Lysine

Product details

BAA1104 Boc-L-Lys(Boc)-OH*DCHA

N-alpha-N-epsilon-di-*t*-Butyloxycarbonyl-L-lysine dicyclohexylamine

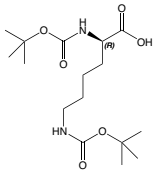
CAS-No.	15098-69-8
Formula	$C_{16}H_{30}N_2O_6*C_{12}H_{23}N$
Mol. weight	346,4*181,32 g/mol



BAA1039 Boc-D-Lys(Boc)-OH*DCHA

N-alpha-N-epsilon-di-*t*-butyloxycarbonyl-D-lysine dicyclohexylamine

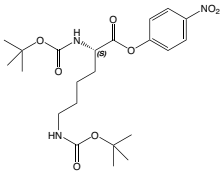
CAS-No.	204190-67-0
Formula	$C_{16}H_{30}N_2O_6$
Mol. weight	346,4*181,3 g/mol



BAA5780 Boc-L-Lys(Boc)-ONp

N-alpha-N-epsilon-di-*t*-Butyloxycarbonyl-L-lysine *p*-nitrophenyl ester

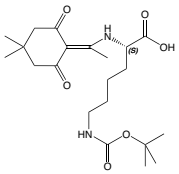
CAS-No.	2592-19-0
Formula	$C_{22}H_{33}N_3O_8$
Mol. weight	467,51 g/mol



DAA1014 Dde-L-Lys(Boc)-OH

N-alpha-(4-4-Dimethyl-2,6-dioxocyclohex-1-ylidene) ethyl-N-epsilon-*t*-butyloxycarbonyl-L-lysine

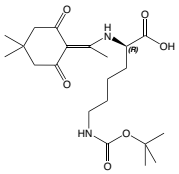
CAS-No.	1189586-14-8
Formula	$C_{21}H_{34}N_2O_6$
Mol. weight	410,51 g/mol



DAA1008 Dde-D-Lys(Boc)-OH

N-alpha-(4-4-Dimethyl-2,6-dioxocyclohex-1-ylidene) ethyl-N-epsilon-*t*-butyloxycarbonyl-D-lysine

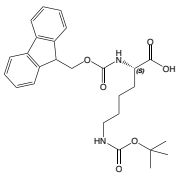
CAS-No.	1272754-98-9
Formula	$C_{21}H_{34}N_2O_6$
Mol. weight	410,51 g/mol



FAA1125 Fmoc-L-Lys(Boc)-OH

N-alpha-(9-Fluorenylmethyloxycarbonyl)-N-epsilon-*t*-butyloxycarbonyl-L-lysine

CAS-No.	71989-26-9
Formula	$C_{26}H_{32}N_2O_6$
Mol. weight	468,53 g/mol

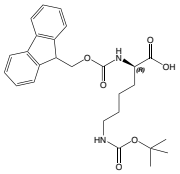


Product details

FAA1330 Fmoc-D-Lys(Boc)-OH

N-alpha-(9-Fluorenylmethyloxycarbonyl)-N-epsilon-*t*-butyl-oxycarbonyl-D-lysine

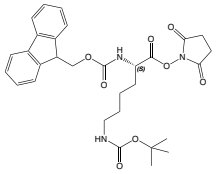
CAS-No.	92122-45-7
Formula	$C_{26}H_{32}N_2O_6$
Mol. weight	468,53 g/mol



FAA6450 Fmoc-L-Lys(Boc)-OSu

N-alpha-(9-Fluorenylmethyloxycarbonyl)-N-epsilon-*t*-butyloxycarbonyl-L-lysine succinimidyl ester

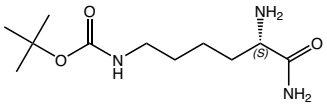
CAS-No.	132307-50-7
Formula	$C_{30}H_{35}N_3O_8$
Mol. weight	565,62 g/mol



HAA9520 H-L-Lys(Boc)-NH_2*HCl

tert-butyl (S)-(5,6-diamino-6-oxohexyl)carbamate hydrochloride

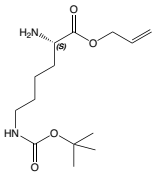
CAS-No.	112803-72-2
Formula	$C_{11}H_{23}N_3O_3$*HCl
Mol. weight	245,32*36,45 g/mol



HAA8840 H-L-Lys(Boc)-OAll*HCl

N-epsilon-(*t*-Butyloxycarbonyl)-D-lysine allyl ester hydrochloride

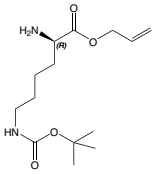
CAS-No.	218938-64-8
Formula	$C_{14}H_{26}N_2O_4$*HCl
Mol. weight	286,37*36,45 g/mol



HAA8810 H-D-Lys(Boc)-OAll*HCl

N-epsilon-*t*-Butyloxycarbonyl-D-lysine allyl ester hydrochloride

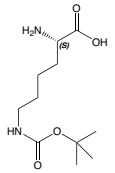
CAS-No.	218962-73-3
Formula	$C_{14}H_{26}N_2O_4$*HCl
Mol. weight	286,37*36,45 g/mol



HAA1096 H-L-Lys(Boc)-OH

N-epsilon-*t*-Butyloxycarbonyl-L-lysine

CAS-No.	2418-95-3
Formula	$C_{11}H_{22}N_2O_4$
Mol. weight	246,31 g/mol



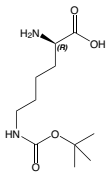
Lysine

Product details

HAA6310 H-D-Lys(Boc)-OH

N-epsilon-*t*-Butyloxycarbonyl-D-lysine

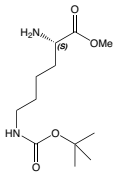
CAS-No.	31202-69-4
Formula	$C_{11}H_{22}N_2O_4$
Mol. weight	246,3 g/mol



HAA6830 H-L-Lys(Boc)-OMe*HCl

N-epsilon-*t*-Butyloxycarbonyl-L-lysine methyl ester hydrochloride

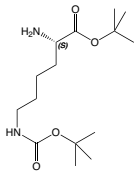
CAS-No.	2389-48-2
Formula	$C_{12}H_{24}N_2O_4$*HCl
Mol. weight	260,35*36,45 g/mol



HAA6840 H-L-Lys(Boc)-O*t*Bu*HCl

N-epsilon-*t*-Butyloxycarbonyl-L-lysine *t*-butyl ester hydrochloride

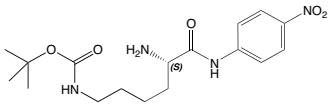
CAS-No.	13288-57-8
Formula	$C_{15}H_{30}N_2O_4$*HCl
Mol. weight	302,41*36,45 g/mol



HAA1183 H-L-Lys(Boc)-pNA

N-epsilon-*t*-Butyloxycarbonyl-L-lysin-*p*-nitroanilide

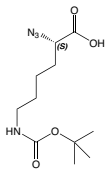
CAS-No.	172422-76-3
Formula	$C_{17}H_{26}N_4O_5$
Mol. weight	366,42 g/mol



HAA2170 N_3-L-Lys(Boc)-OH

(S)-2-Azido-6-[(*t*-butyloxycarbonyl)amino]hexanoic acid

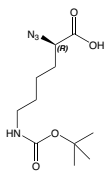
CAS-No.	333366-32-8
Formula	$C_{11}H_{20}N_4O_4$
Mol. weight	272,3 g/mol



HAA2175 N_3-D-Lys(Boc)-OH

(R)-2-Azido-6-[(*t*-butyloxycarbonyl)amino]hexanoic acid

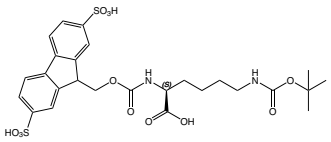
CAS-No.	1178899-92-7
Formula	$C_{11}H_{20}N_4O_4$
Mol. weight	272,3 g/mol



SAA1190 Smoc-L-Lys(Boc)-OH

N6-(*tert*-butoxycarbonyl)-N2-(((2,7-disulfo-9H-fluoren-9-yl)methoxy)carbonyl)-L-lysine potassium salt

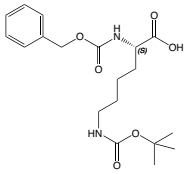
CAS-No.	2442552-82-9
Formula	$C_{26}H_{30}K_2N_2O_{12}S_2$
Mol. weight	704,84 g/mol



ZAA1184 Z-L-Lys(Boc)-OH

N-alpha-Benzyloxycarbonyl-N-epsilon-*t*-butyloxycarbonyl-L-lysine

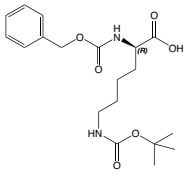
CAS-No.	2389-60-8
Formula	$C_{19}H_{28}N_2O_6$
Mol. weight	380,44 g/mol



ZAA1151 Z-D-Lys(Boc)-OH

N-alpha-Benzyloxycarbonyl-N-epsilon-*t*-butyloxycarbonyl-D-lysine

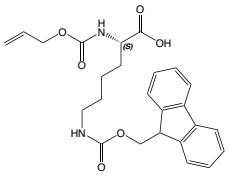
CAS-No.	66845-42-9
Formula	$C_{19}H_{28}N_2O_6$
Mol. weight	380,44 g/mol



AAA1506 Aloc-L-Lys(Fmoc)-OH

N-alpha-Allyloxycarbonyl-N-epsilon-(9-fluorenylmethyloxycarbonyl)-L-lysine

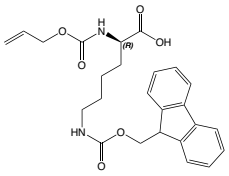
CAS-No.	186350-56-1
Formula	$C_{25}H_{28}N_2O_6$
Mol. weight	452,51 g/mol



AAA1927 Aloc-D-Lys(Fmoc)-OH

N-alpha-Allyloxycarbonyl-N-epsilon-(9-fluorenylmethyloxycarbonyl)-D-lysine

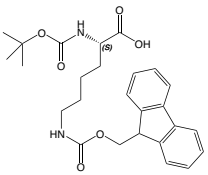
CAS-No.	1193642-32-8
Formula	$C_{25}H_{28}N_2O_6$
Mol. weight	452,51 g/mol



BAA1406 Boc-L-Lys(Fmoc)-OH

N-alpha-*t*-Butyloxycarbonyl-N-epsilon-(9-fluorenylmethyloxycarbonyl)-L-lysine

CAS-No.	84624-27-1
Formula	$C_{26}H_{32}N_2O_6$
Mol. weight	468,53 g/mol



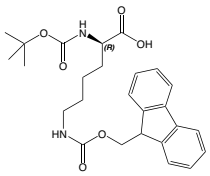
Lysine

Product details

BAA1040 Boc-D-Lys(Fmoc)-OH

N-alpha-*t*-Butyloxycarbonyl-N-epsilon-(9-fluorenylmethyloxycarbonyl)-D-lysine

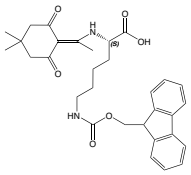
CAS-No.	115186-31-7
Formula	$C_{26}H_{32}N_2O_6$
Mol. weight	468,53 g/mol



DAA1015 Dde-L-Lys(Fmoc)-OH

N-alpha-(4-4-Dimethyl-2,6-dioxocyclohex-1-ylidene) ethyl-N-epsilon-(9-fluorenylmethyloxycarbonyl)-L-lysine

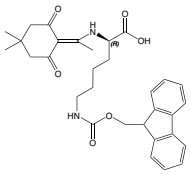
CAS-No.	156648-40-7
Formula	$C_{31}H_{36}N_2O_6$
Mol. weight	532,64 g/mol



DAA1017 Dde-D-Lys(Fmoc)-OH

N-alpha-(4-4-Dimethyl-2,6-dioxocyclohex-1-ylidene) ethyl-N-epsilon-(9-fluorenylmethyloxycarbonyl)-D-lysine

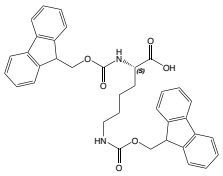
CAS-No.	1301706-71-7
Formula	$C_{31}H_{36}N_2O_6$
Mol. weight	532,64 g/mol



FAA1391 Fmoc-L-Lys(Fmoc)-OH

N-alpha-N-epsilon-Bis(9-fluorenylmethyloxycarbonyl)-L-lysine

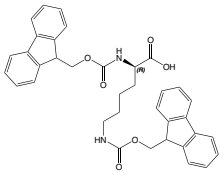
CAS-No.	78081-87-5
Formula	$C_{36}H_{34}N_2O_6$
Mol. weight	590,65 g/mol



FAA1331 Fmoc-D-Lys(Fmoc)-OH

N-alpha-N-epsilon-Bis(9-fluorenylmethyloxycarbonyl)-D-lysine

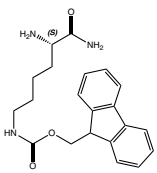
CAS-No.	75932-02-4
Formula	$C_{36}H_{34}N_2O_6$
Mol. weight	590,65 g/mol



HAA3620 H-L-Lys(Fmoc)-NH_2*HCl

N-epsilon-(9-Fluorenylmethyloxycarbonyl)-L-lysine amide hydrochloride

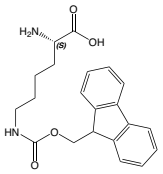
CAS-No.	98318-03-7
Formula	$C_{21}H_{25}N_3O_3$*HCl
Mol. weight	367,44*36,45 g/mol



HAA6850 H-L-Lys(Fmoc)-OH

N-epsilon-(9-Fluorenylmethyloxycarbonyl)-L-lysine

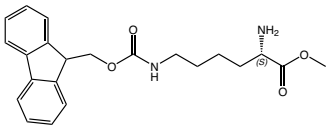
CAS-No.	84624-28-2
Formula	$C_{21}H_{24}N_2O_4$
Mol. weight	368,44 g/mol



HAA9530 H-L-Lys(Fmoc)-OMe*HCl

methyl N6-(((9H-fluoren-9-yl)methoxy)carbonyl)-L-lysinate hydrochloride

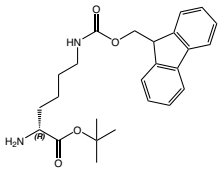
CAS-No.	201009-98-5
Formula	$22H_{26}N_2O_4$*HCl
Mol. weight	382,46*36,45 g/mol



HAA9305 H-D-Lys(Fmoc)-O*t*Bu*HCl

tert-butyl N6-(((9H-fluoren-9-yl)methoxy)carbonyl)-D-lysinate

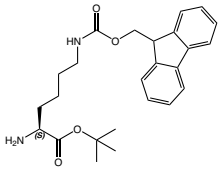
Formula	$C_{25}H_{32}N_2O_4$*HCl
Mol. weight	424,54*36,46 g/mol



HAA9385 H-L-Lys(Fmoc)-O*t*Bu*HCl

tert-butyl (2S)-2-amino-6-({[(9H-fluoren-9-yl)methoxy]carbonyl}amino)hexanoate hydrochloride

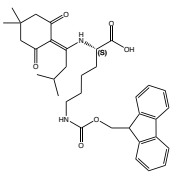
CAS-No.	330795-57-8
Formula	$C_{25}H_{32}N_2O_4$*HCl
Mol. weight	424,54*36,45 g/mol



DAA1019 ivDde-L-Lys(Fmoc)-OH

N-alpha-[(4,4-Dimethyl-2,6-dioxocyclohex-1-ylidene)-3-methylbutyl]-N-epsilon-(9-fluorenylmethyloxycarbonyl)-L-lysine

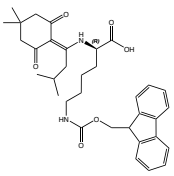
CAS-No.	1446752-60-8
Formula	$C_{34}H_{42}N_2O_6$
Mol. weight	574,71 g/mol



DAA1030 ivDde-D-Lys(Fmoc)-OH

N-alpha-[(4,4-Dimethyl-2,6-dioxocyclohex-1-ylidene)-3-methylbutyl]-N-epsilon-(9-fluorenylmethyloxycarbonyl)-D-lysine

CAS-No.	2308529-94-2
Formula	$C_{34}H_{42}N_2O_6$
Mol. weight	574,71 g/mol



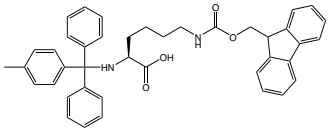
Lysine

Product details

MAA1110 Mtt-L-Lys(Fmoc)-OH

N-alpha-Methyltrityl-N-epsilon-Fmoc-L-lysine

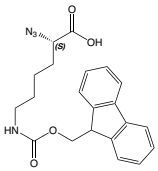
CAS-No.	2575932-44-2
Formula	$C_{41}H_{40}N_2O_4$
Mol. weight	624,78 g/mol



HAA2160 N_3-L-Lys(Fmoc)-OH

(S)-2-Azido-6-[(9-fluorenylmethyloxycarbonyl)amino] hexanoic acid

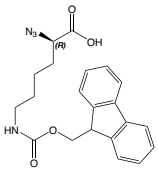
CAS-No.	473430-12-5
Formula	$C_{21}H_{22}N_4O_4$
Mol. weight	394,42 g/mol



HAA2165 N_3-D-Lys(Fmoc)-OH

(R)-2-Azido-6-[(9-fluorenylmethyloxycarbonyl)amino] hexanoic acid

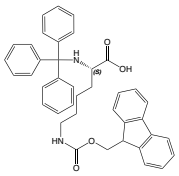
CAS-No.	1994300-35-4
Formula	$C_{21}H_{22}N_4O_4$
Mol. weight	394,42 g/mol



TAA6570 Trt-L-Lys(Fmoc)-OH

N-alpha-Trityl-N-epsilon-(9-fluorenylmethyloxycarbonyl)-D-lysine

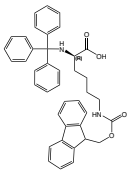
CAS-No.	122832-81-9
Formula	$C_{40}H_{38}N_2O_4$
Mol. weight	610,74 g/mol



TAA1520 Trt-D-Lys(Fmoc)-OH

N-alpha-Trityl-N-epsilon-(9-fluorenylmethyloxycarbonyl)-D-lysine

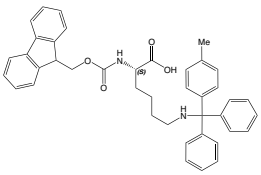
CAS-No.	2504147-15-1
Formula	$C_{40}H_{38}N_2O_4$
Mol. weight	610,74 g/mol



FAA1135 Fmoc-L-Lys(Mtt)-OH

N-alpha-(9-Fluorenylmethyloxycarbonyl)-N-epsilon-4-methyltrityl-L-lysine

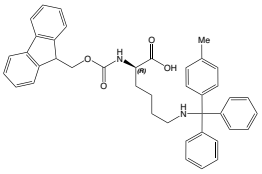
CAS-No.	167393-62-6
Formula	$C_{41}H_{40}N_2O_4$
Mol. weight	624,8 g/mol



FAA1130 Fmoc-D-Lys(Mtt)-OH

N-alpha-(9-Fluorenylmethyloxycarbonyl)-N-epsilon-4-methyltrityl-D-lysine

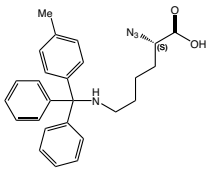
CAS-No.	198544-94-4
Formula	$C_{41}H_{40}N_2O_4$
Mol. weight	624,78 g/mol



HAA2880 N_3-L-Lys(Mtt)-OH

(S)-2-Azido-6-[(4-methyltrityl)amino]hexanoic acid

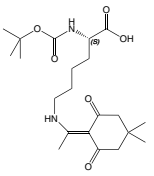
CAS-No.	1333231-26-7
Formula	$C_{26}H_{28}N_4O_2$
Mol. weight	428,53 g/mol



BAA1286 Boc-L-Lys(Dde)-OH*DCHA

N-alpha-*t*-Butyloxycarbonyl-N-epsilon-(4,4-dimethyl-2,6-dioxocyclohex-1-ylidene)ethyl-L-lysine dicyclohexylamine

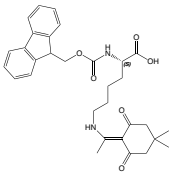
CAS-No.	444795-66-8
Formula	$C_{21}H_{34}N_2O_6*C_{12}H_{23}N$
Mol. weight	410,51*181,32 g/mol



FAA1390 Fmoc-L-Lys(Dde)-OH

N-alpha-(9-Fluorenylmethyloxycarbonyl)-N-epsilon-(4,4-dimethyl-2,6-dioxocyclohex-1-ylidene) ethyl-L-lysine

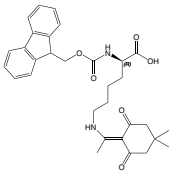
CAS-No.	150629-67-7
Formula	$C_{31}H_{36}N_2O_6$
Mol. weight	532,64 g/mol



FAA1486 Fmoc-D-Lys(Dde)-OH

N-alpha-(9-Fluorenylmethyloxycarbonyl)-N-epsilon-[(4,4-dimethyl-2,6-dioxocyclohex-1-ylidene) ethyl]-D-lysine

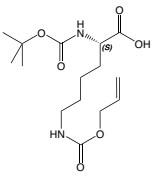
CAS-No.	333973-51-6
Formula	$C_{31}H_{36}N_2O_6$
Mol. weight	532,64 g/mol



BAA1103 Boc-L-Lys(Aloc)-OH*DCHA

N-alpha-*t*-Butyloxycarbonyl-N-epsilon-allyloxycarbonyl-L-lysine dicyclohexylamine salt

CAS-No.	110637-52-0
Formula	$C_{15}H_{26}N_2O_6*C_{12}H_{23}N$
Mol. weight	330,38*181,32 g/mol

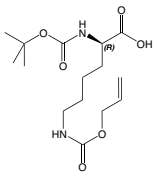


Lysine

Product details

BAA1037 Boc-D-Lys(Aloc)-OH*DCHA

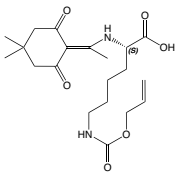
N-alpha-*t*-Butyloxycarbonyl-N-epsilon-allyloxycarbonyl-D-lysine dicyclohexylamine



CAS-No.	327156-94-5
Formula	$C_{15}H_{26}N_2O_6$*$C_{12}H_{23}N$
Mol. weight	330,38*181,32 g/mol

DAA1013 Dde-L-Lys(Aloc)-OH*DCHA

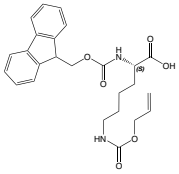
N-alpha-(4-4-Dimethyl-2,6-dioxocyclohex-1-ylidene) ethyl-N-epsilon-allyloxycarbonyl-L-lysine dicyclohexylamine



CAS-No.	264230-73-1 net
Formula	$C_{20}H_{30}N_2O_6$*$C_{12}H_{23}N$
Mol. weight	394,47*181,32 g/mol

FAA1387 Fmoc-L-Lys(Aloc)-OH

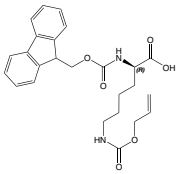
N-alpha-(9-Fluorenylmethyloxycarbonyl)-N-epsilon-allyl-oxycarbonyl-L-lysine



CAS-No.	146982-27-6
Formula	$C_{25}H_{28}N_2O_6$
Mol. weight	452,51 g/mol

FAA1329 Fmoc-D-Lys(Aloc)-OH

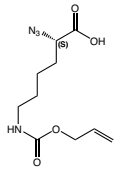
N-alpha-(9-Fluorenylmethyloxycarbonyl)-N-epsilon-allyl-oxycarbonyl-D-lysine



CAS-No.	214750-75-1
Formula	$C_{25}H_{28}N_2O_6$
Mol. weight	452,51 g/mol

HAA2900 N_3-L-Lys(Alloc)-OH*DCHA

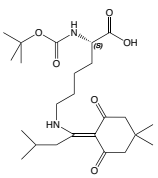
(S)-2-Azido-6-[(allyloxycarbonyl)amino]hexanoic acid dicyclohexylamine



CAS-No.	1799661-51-0
Formula	$C_{10}H_{16}N_4O_4$*$C_{12}H_{23}N$
Mol. weight	256,26*181,32 g/mol

BAA1287 Boc-L-Lys(ivDde)-OH

N-alpha-*t*-Butyloxycarbonyl-N-epsilon-[1-(4,4-dimethyl-2,6-dioxocyclohex-1-ylidene)-3-methylbutyl]-L-lysine

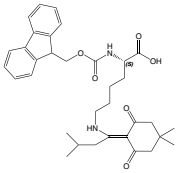


CAS-No.	862847-44-7
Formula	$C_{24}H_{40}N_2O_6$
Mol. weight	452,6 g/mol

FAA1500 Fmoc-L-Lys(ivDde)-OH

N-alpha-(9-Fluorenylmethyloxycarbonyl)-N-epsilon-[1-(4,4-dimethyl-2,6-dioxocyclohex-1-ylidene)-3-methylbutyl]-L-lysine

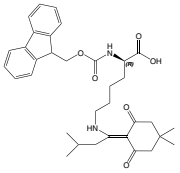
CAS-No.	204777-78-6
Formula	$C_{34}H_{42}N_2O_6$
Mol. weight	574,72 g/mol



FAA1488 Fmoc-D-Lys(ivDde)-OH

N-alpha-(9-Fluorenylmethyloxycarbonyl)-N-epsilon-[1-(4,4-dimethyl-2,6-dioxocyclohex-1-ylidene)-3-methylbutyl]-D-lysine

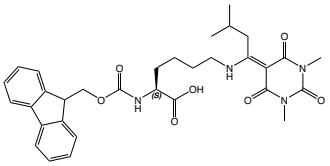
CAS-No.	1272755-33-5
Formula	$C_{34}H_{42}N_2O_6$
Mol. weight	574,72 g/mol



FAA7975 Fmoc-L-Lys(ivDmb)-OH

N2-(((9H-fluoren-9-yl)methoxy)carbonyl)-N6-(1-(1,3-dimethyl-2,4,6-trioxotetrahydropyrimidin-5(2H)-ylidene)-3-methylbutyl)-L-lysine

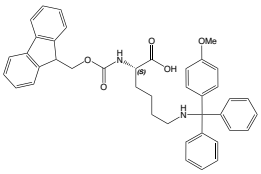
Formula	$C_{32}H_{38}N_4O_7$
Mol. weight	590,68 g/mol



FAA1622 Fmoc-L-Lys(Mmt)-OH

N-alpha-(9-Fluorenylmethyloxycarbonyl)-N-epsilon-4-methoxytrityl-L-lysine

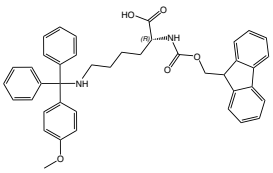
CAS-No.	159857-60-0
Formula	$C_{41}H_{40}N_2O_5$
Mol. weight	640,77 g/mol



FAA9310 Fmoc-D-Lys(Mmt)-OH

N2-(((9H-fluoren-9-yl)methoxy)carbonyl)-N6-((4-methoxyphenyl)diphenylmethyl)-D-lysine

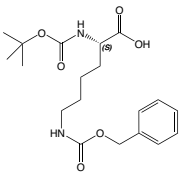
CAS-No.	2044710-18-9
Formula	$C_{41}H_{40}N_2O_5$
Mol. weight	640,78 g/mol



BAA1106 Boc-L-Lys(Z)-OH

N-alpha-*t*-Butyloxycarbonyl-N-epsilon-benzyloxycarbonyl-L-lysine

CAS-No.	2389-45-9
Formula	$C_{19}H_{28}N_2O_6$
Mol. weight	380,44 g/mol



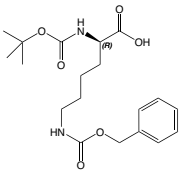
Lysine

Product details

BAA1358 Boc-D-Lys(Z)-OH

N-alpha-*t*-Butyloxycarbonyl-N-epsilon-benzyloxycarbonyl-D-lysine

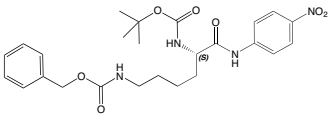
CAS-No.	55878-47-2
Formula	$C_{19}H_{28}N_2O_6$
Mol. weight	380,44 g/mol



BAA1208 Boc-L-Lys(Z)-pNA

N-alpha-*t*-Butyloxycarbonyl-N-epsilon-benzyloxycarbonyl-L-lysine 4-nitroanilid

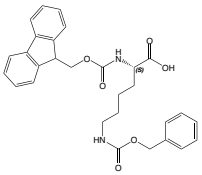
CAS-No.	51078-31-0
Formula	$C_{25}H_{32}N_4O_7$
Mol. weight	500,56 g/mol



FAA1392 Fmoc-L-Lys(Z)-OH

N-alpha-(9-Fluorenylmethyloxycarbonyl)-N-epsilon-benzyloxycarbonyl-L-lysine

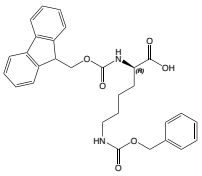
CAS-No.	86060-82-4
Formula	$C_{29}H_{30}N_2O_6$
Mol. weight	502,57 g/mol



FAA1673 Fmoc-D-Lys(Z)-OH

N-alpha-(9-Fluorenylmethyloxycarbonyl)-N-epsilon-(benzyl-oxycarbonyl)-D-lysine

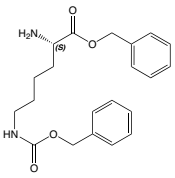
CAS-No.	110990-07-3
Formula	$C_{29}H_{30}N_2O_6$
Mol. weight	502,57 g/mol



HAA6860 H-L-Lys(Z)-OBzl*HCl

N-epsilon-Benzyloxycarbonyl-L-lysine benzyl ester hydrochloride

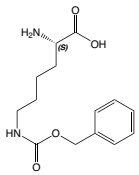
CAS-No.	6366-70-7
Formula	$C_{21}H_{26}N_2O_4$*HCl
Mol. weight	370,45*36,45 g/mol



HAA6870 H-L-Lys(Z)-OH

N-epsilon-Benzyloxycarbonyl-L-lysine

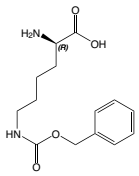
CAS-No.	1155-64-2
Formula	$C_{14}H_{20}N_2O_4$
Mol. weight	280,33 g/mol



HAA6320 H-D-Lys(Z)-OH

N-epsilon-Benzyloxycarbonyl-D-lysine

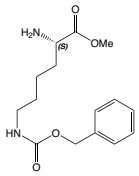
CAS-No.	34404-32-5
Formula	$C_{14}H_{20}N_2O_4$
Mol. weight	280,33 g/mol



HAA6880 H-L-Lys(Z)-OMe*HCl

N-epsilon-Benzyloxycarbonyl-L-lysine methyl ester hydrochloride

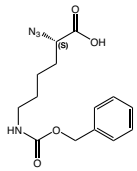
CAS-No.	27894-50-4
Formula	$C_{15}H_{22}N_2O_4$*HCl
Mol. weight	294,35*36,45 g/mol



HAA2910 N_3-L-Lys(Z)-OH*DCHA

(S)-2-Azido-6-[(benzyloxycarbonyl)amino]hexanoic acid dicyclohexylamine

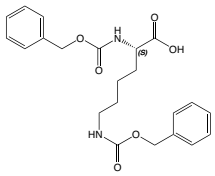
CAS-No.	1414891-50-1
Formula	$C_{14}H_{18}N_4O_4$*$C_{12}H_{23}N$
Mol. weight	306,32*181,22 g/mol



ZAA1228 Z-L-Lys(Z)-OH

N-alpha-N-epsilon-Bis-benzyloxycarbonyl-L-lysine

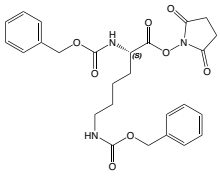
CAS-No.	405-39-0
Formula	$C_{22}H_{26}N_2O_6$
Mol. weight	414,45 g/mol



ZAA1230 Z-L-Lys(Z)-OSu

N-alpha-N-epsilon-Bis-benzyloxycarbonyl-L-lysine succinimidyl ester

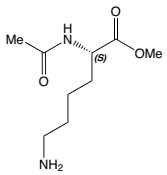
CAS-No.	21160-83-8
Formula	$C_{26}H_{29}N_3O_8$
Mol. weight	511,51 g/mol



AAA1922 Ac-L-Lys-OMe*HCl

N-alpha-Acetyl-L-lysine methyl ester hydrochloride

CAS-No.	20911-93-7
Formula	$C_9H_{18}N_2O_3$*HCl
Mol. weight	202,25*36,45 g/mol



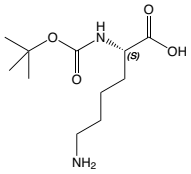
Lysine

Product details

BAA1107 Boc-L-Lys-OH

N-alpha-*t*-Butyloxycarbonyl-L-lysine

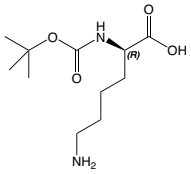
CAS-No. 13734-28-6
Formula $C_{11}H_{22}N_2O_4$
Mol. weight 246,31 g/mol



BAA1042 Boc-D-Lys-OH

N-alpha-*t*-Butyloxycarbonyl-D-lysine

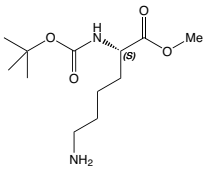
CAS-No. 106719-44-2
Formula $C_{11}H_{22}N_2O_4$
Mol. weight 246,3 g/mol



BAA1885 Boc-L-Lys-OMe*AcOH

N-alpha-*t*-Butyloxycarbonyl-L-lysine methylester acetate

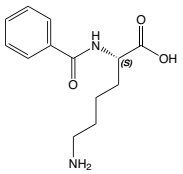
CAS-No. 55757-60-3
Formula $C_{12}H_{24}N_2O_4*CH_3CO_2H$
Mol. weight 260,33*60,05 g/mol



BAA0039 Bz-L-Lys-OH

N-alpha-Benzoyl-L-lysine

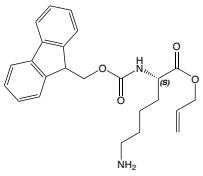
CAS-No. 366-74-5
Formula $C_{13}H_{18}N_2O_3$
Mol. weight 250,29 g/mol



FAA1393 Fmoc-L-Lys-OAll*HCl

N-alpha-(9-Fluorenylmethyloxycarbonyl)-L-lysine allyl ester hydrochloride

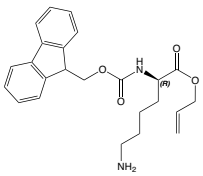
CAS-No. 815619-80-8
Formula $C_{24}H_{28}N_2O_4*HCl$
Mol. weight 408,5*36,45 g/mol



FAA1769 Fmoc-D-Lys-OAll*HCl

N-alpha-(9-Fluorenylmethyloxycarbonyl)-D-lysine allyl ester hydrochloride

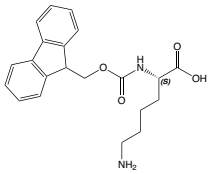
CAS-No. 1272754-92-3
Formula $C_{24}H_{28}N_2O_4*HCl$
Mol. weight 408,5*36,45 g/mol



FAA1394 Fmoc-L-Lys-OH

N-alpha-(9-Fluorenylmethyloxycarbonyl)-L-lysine

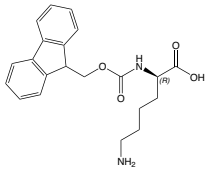
CAS-No.	105047-45-8
Formula	$C_{21}H_{24}N_2O_4$
Mol. weight	368,42 g/mol



FAA9455 Fmoc-D-Lys-OH*HCl

N-alpha-(9-Fluorenylmethyloxycarbonyl)-D-lysine hydrochloride

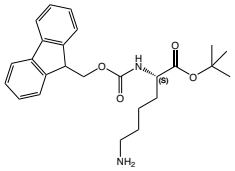
CAS-No.	201002-47-3
Formula	$C_{21}H_{24}N_2O_4$*HCl
Mol. weight	368,42*36,45 g/mol



FAA4680 Fmoc-L-Lys-O*t*Bu*HCl

N-alpha-(9-Fluorenylmethyloxycarbonyl)-L-lysine *t*-butyl ester hydrochloride

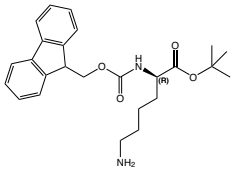
CAS-No.	2413365-23-6
Formula	$C_{25}H_{32}N_2O_4$*HCl
Mol. weight	424,53*36,45 g/mol



FAA4690 Fmoc-D-Lys-O*t*Bu*HCl

N-alpha-(9-Fluorenylmethyloxycarbonyl)-D-lysine *t*-butyl ester hydrochloride

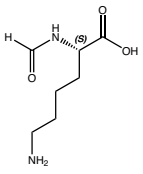
CAS-No.	2250436-42-9
Formula	$C_{25}H_{32}N_2O_4$*HCl
Mol. weight	424,53*36,45 g/mol



XAA1330 For-L-Lys-OH

N-alpha-Formyl-L-lysine

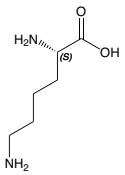
CAS-No.	19729-28-3
Formula	$C_7H_{14}N_2O_3$
Mol. weight	174,2 g/mol



HAA1097 H-L-Lys-OH*HCl

L-Lysine hydrochloride

CAS-No.	657-27-2
Formula	$C_6H_{14}N_2O_2$*HCl
Mol. weight	146,2*36,45 g/mol



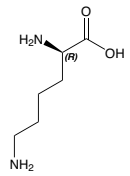
Lysine

Product details

HAA1033 H-D-Lys-OH*HCl

D-Lysine Hydrochloride

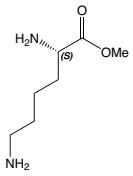
CAS-No.	7274-88-6
Formula	$C_6H_{14}N_2O_2$*HCl
Mol. weight	146,2*36,45 g/mol



HAA6910 H-L-Lys-OMe*2HCl

L-Lysine methyl ester dihydrochloride

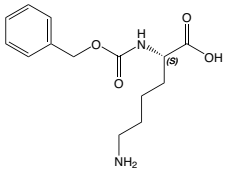
CAS-No.	26348-70-9
Formula	$C_7H_{16}N_2O_2$*2HCl
Mol. weight	160,23*72,91 g/mol



ZAA1022 Z-L-Lys-OH

N-alpha-Benzyloxycarbonyl-L-lysine

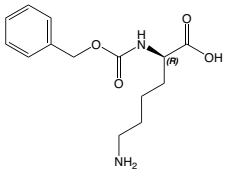
CAS-No.	2212-75-1
Formula	$C_{14}H_{20}N_2O_4$
Mol. weight	280,32 g/mol



ZAA1025 Z-D-Lys-OH

N-alpha-Benzyloxycarbonyl-D-lysine

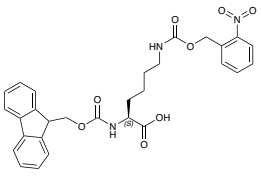
CAS-No.	70671-54-4
Formula	$C_{14}H_{20}N_2O_4$
Mol. weight	280,32 g/mol



FAA9365 Fmoc-L-Lys(oNB)-OH

N2-(((9H-fluoren-9-yl)methoxy)carbonyl)-N6-(((2-nitro-benzyl)oxy)carbonyl)-L-lysine

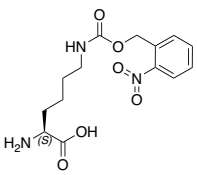
CAS-No.	228564-77-0
Formula	$C_{29}H_{29}N_3O_8$
Mol. weight	547,56 g/mol



FAA9345 H-L-Lys(oNB)-OH*HCl

N6-(((2-nitrobenzyl)oxy)carbonyl)-L-lysine

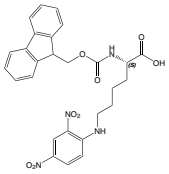
CAS-No.	228564-76-9
Formula	$C_{14}H_{19}N_3O_6$*HCl
Mol. weight	325,32*36,45 g/mol



FAA1499 Fmoc-L-Lys(Dnp)-OH

N-alpha-(9-Fluorenylmethyloxycarbonyl)-N-epsilon-(2,4-dinitrophenyl)-L-lysine

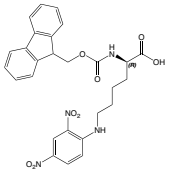
CAS-No.	148083-64-1
Formula	$C_{27}H_{26}N_4O_8$
Mol. weight	534,53 g/mol



FAA1487 Fmoc-D-Lys(Dnp)-OH

N-alpha-(9-Fluorenylmethyloxycarbonyl)-N-epsilon-(2,4-dinitrophenyl)-D-lysine

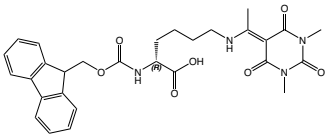
CAS-No.	269061-41-8
Formula	$C_{27}H_{26}N_4O_8$
Mol. weight	534,53 g/mol



FAA8845 Fmoc-D-Lys(MeDmb)-OH

(2R)-6-{[1-(1,3-dimethyl-2,4,6-trioxo-1,3-diazinan-5-ylidene)ethyl]amino}-2-({[(9H-fluoren-9-yl)methoxy]carbonyl}amino)hexanoic acid

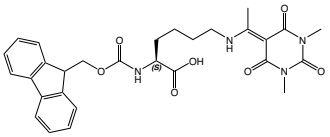
Formula	$C_{29}H_{32}N_4O_7$
Mol. weight	548,60 g/mol



FAA8840 Fmoc-L-Lys(MeDmb)-OH

(2S)-6-{[1-(1,3-dimethyl-2,4,6-trioxo-1,3-diazinan-5-ylidene)ethyl]amino}-2-({[(9H-fluoren-9-yl)methoxy]carbonyl}amino)hexanoic acid

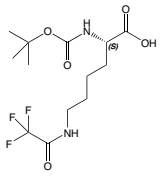
Formula	$C_{29}H_{32}N_4O_7$
Mol. weight	548,60 g/mol



BAA5790 Boc-L-Lys(TFA)-OH

N-alpha-*t*-Butyloxycarbonyl-N-epsilon-trifluoracetyl-L-lysine

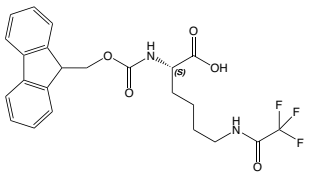
CAS-No.	16965-06-3
Formula	$C_{13}H_{21}F_3N_2O_5$
Mol. weight	342,31 g/mol



FAA1588 Fmoc-L-Lys(TFA)-OH

N-alpha-(9-Fluorenylmethyloxycarbonyl)-N-epsilon-trifluoracetyl-L-lysine

CAS-No.	76265-69-5
Formula	$C_{23}H_{23}F_3N_2O_5$
Mol. weight	464,45 g/mol



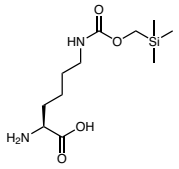
Lysine

Product details

HAA9205 H-L-Lys(Tmoc)-OH*HCl

N-epsilon-Trimethylsilylmethyloxycarbonyl-L-lysine hydrochloride salt

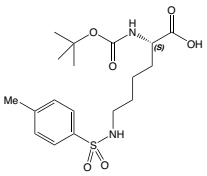
CAS-No.	2756444-49-0 net
Formula	$C_{11}H_{25}ClN_2O_4Si$
Mol. weight	276,41*36,46 g/mol



BAA5800 Boc-L-Lys(Tos)-OH*DCHA

N-alpha-*t*-Butyloxycarbonyl-N-epsilon-*p*-tolylsulfonyl-L-lysine DCHA salt

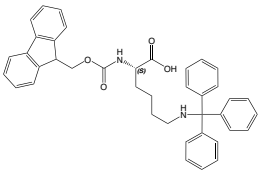
CAS-No.	13734-29-7
Formula	$C_{18}H_{28}N_2O_6S*C_{12}H_{23}N$
Mol. weight	400,49*181,32 g/mol



FAA1140 Fmoc-L-Lys(Trt)-OH

N-alpha-(9-Fluorenylmethyloxycarbonyl)-N-epsilon-trityl-L-lysine

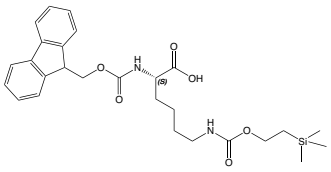
CAS-No.	111061-54-2
Formula	$C_{40}H_{38}N_2O_4$
Mol. weight	610,78 g/mol



FAA1727 Fmoc-L-Lys(Teoc)-OH

N-alpha-(9-Fluorenylmethyloxycarbonyl)-N-epsilon-(2-trimethylsilyl)ethoxycarbonyl-L-lysine

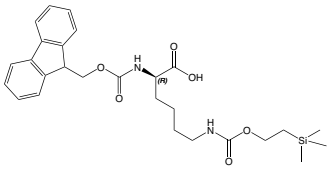
CAS-No.	122903-68-8
Formula	$C_{27}H_{36}N_2O_6Si$
Mol. weight	512,66 g/mol



FAA1672 Fmoc-D-Lys(Teoc)-OH

N-alpha-(9-Fluorenylmethyloxycarbonyl)-N-epsilon-(2-trimethylsilyl)ethoxycarbonyl-D-lysine

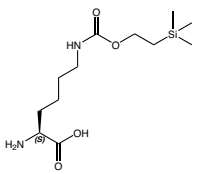
CAS-No.	198545-00-5
Formula	$C_{27}H_{36}N_2O_6Si$
Mol. weight	512,66 g/mol



HAA9460 H-L-Lys(Teoc)-OH

N-epsilon-trimethylsilylethoxycarbonyl-L-lysine

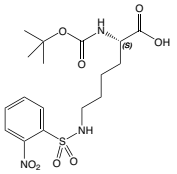
CAS-No.	85167-75-5
Formula	$C_{12}H_{26}N_2O_4Si$
Mol. weight	290,44 g/mol



BAA5230 Boc-L-Lys(Ns)-OH

N-alpha-*t*-Butyloxycarbonyl-N-epsilon-nosyl-L-lysine

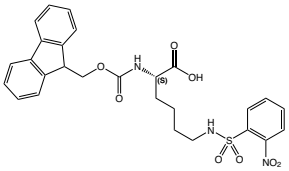
CAS-No.	1301706-36-4
Formula	$C_{17}H_{25}N_3O_8S$
Mol. weight	431,5 g/mol



FAA3500 Fmoc-L-Lys(Ns)-OH

N-alpha-(9-Fluorenylmethyloxycarbonyl)-N-epsilon-nosyl-L-lysine

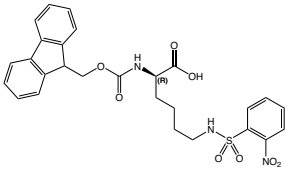
CAS-No.	359780-63-5
Formula	$C_{27}H_{27}N_3O_8S$
Mol. weight	553,58 g/mol



FAA4210 Fmoc-D-Lys(Ns)-OH

N-alpha-(9-Fluorenylmethyloxycarbonyl)-N-epsilon-nosyl-D-lysine

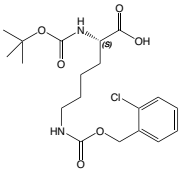
CAS-No.	2250437-39-7
Formula	$C_{27}H_{27}N_3O_8S$
Mol. weight	553,58 g/mol



BAA1102 Boc-L-Lys(2Cl-Z)-OH

N-alpha-*t*-Butyloxycarbonyl-N-epsilon-(2-chlorobenzyloxycarbonyl)-L-lysine

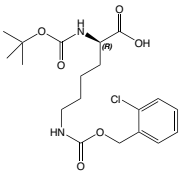
CAS-No.	54613-99-9
Formula	$C_{19}H_{27}ClN_2O_6$
Mol. weight	414,9 g/mol



BAA1036 Boc-D-Lys(2Cl-Z)-OH

N-alpha-*t*-Butyloxycarbonyl-N-epsilon-(2-chlorobenzyloxycarbonyl)-D-lysine

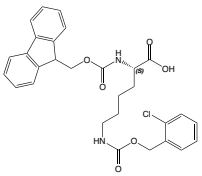
CAS-No.	57096-11-4
Formula	$C_{19}H_{27}ClN_2O_6$
Mol. weight	414,9 g/mol



FAA1725 Fmoc-L-Lys(2-Cl-Z)-OH

N-alpha-(9-Fluorenylmethyloxycarbonyl)-N-epsilon-(2-chlorobenzyloxycarbonyl)-L-lysine

CAS-No.	133970-31-7
Formula	$C_{29}H_{29}ClN_2O_6$
Mol. weight	537,01 g/mol



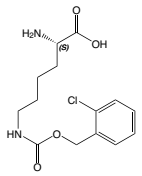
Lysine

Product details

HAA6820 H-L-Lys(2-Cl-Z)-OH

N-epsilon-(2-Chlorobenzyloxycarbonyl)-L-lysine

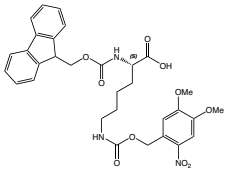
CAS-No.	42390-97-6
Formula	$C_{14}H_{19}N_2O_4Cl$
Mol. weight	314,75 g/mol



FAA7230 Fmoc-L-Lys(Nvoc)-OH

N-alpha-(9-Fluorenylmethyloxycarbonyl)-N-epsilon-(*o*-nitroveratryloxycarbonyl)-L-lysine

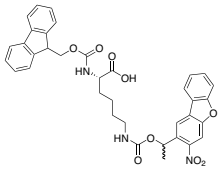
CAS-No.	150571-28-1
Formula	$C_{31}H_{33}N_3O_{10}$
Mol. weight	607,61 g/mol



FAA8425 Fmoc-L-Lys(NDBFOC)-OH

N-alpha-(9-Fluorenylmethyloxycarbonyl)-N-epsilon-(1-(3-nitro-dibenzofuran-2-yl)-ethoxycarbonyl)-L-lysine

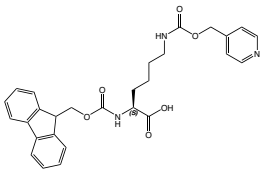
Formula	$C_{36}H_{33}N_3O_9$
Mol. weight	651,66 g/mol



FAA8775 Fmoc-L-Lys(iNoc)-OH

N-alpha-(9-Fluorenylmethoxycarbonyl)-N-epsilon-pyridylmethoxycarbonyl-L-lysine, Fmoc-L-Lys(isonicotinyloxycarbonyl)-OH

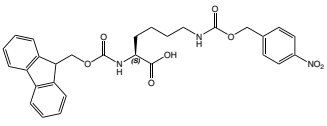
CAS-No.	1459694-90-6
Formula	$C_{28}H_{29}N_3O_6$
Mol. weight	503,56 g/mol



FAA8820 Fmoc-L-Lys(pNZ)-OH

N2-(((9H-fluoren-9-yl)methoxy)carbonyl)-N6-(((4-nitrobenzyl)oxy)carbonyl)-L-lysine

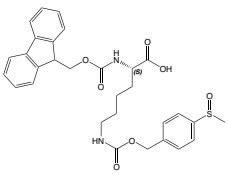
CAS-No.	174653-61-3
Formula	$C_{29}H_{29}N_3O_8$
Mol. weight	547,56 g/mol



FAA9100 Fmoc-L-Lys(Msz)-OH

N-alpha-(9-Fluorenylmethyloxycarbonyl)-N-epsilon-(4-methylsulfinyl-benzyloxycarbonyl)-L-lysine

CAS-No.	2919325-14-5
Formula	$C_{30}H_{32}N_2O_7S$
Mol. weight	564,65 g/mol



Posttranslational Modifications

Lysine residues undergo a wide range of reversible posttranslational modifications (PTMs) *in vivo*, which play crucial roles in regulating enzyme activities, protein-protein interactions, and chromatin structure. The discovery of lysine side-chain acetylation and methylation over 50 years ago revolutionized our previous understanding of gene regulation. More recently, additional lysine acylations, such as crotonylation, malonylation, formylation, and benzoylation, have been identified, though their biological functions remain largely unexplored.

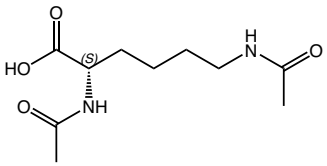
This chemical versatility of lysine modifications is reflected in the diverse functional groups that can be incorporated into lysine peptide building blocks. By leveraging lysine derivatives with specific side-chain modifications, synthetic peptide chemistry enables the creation of tailored peptides that mimic these natural PTMs. Such lysine-modified peptides not only offer valuable insights into the regulatory roles of PTMs but also hold promise for therapeutic applications.

Product details

AAA2410 Ac-L-Lys(Ac)-OH

N2,N6-diacetyl-L-lysine

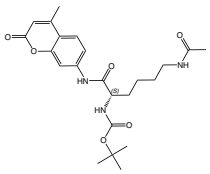
CAS-No.	499-86-5
Formula	$C_{10}H_{18}N_2O_4$
Mol. weight	230,26 g/mol



BAA6410 Boc-L-Lys(Ac)-AMC

***tert*-butyl (S)-(6-acetamido-1-((4-methyl-2-oxo-2H-chromen-7-yl)amino)-1-oxohexan-2-yl)carbamate**

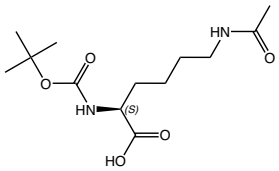
CAS-No.	233691-67-3
Formula	$C_{23}H_{31}N_3O_6$
Mol. weight	445,52 g/mol



BAA6430 Boc-L-Lys(Ac)-OH

N6-acetyl-N2-(*tert*-butoxycarbonyl)-L-lysine

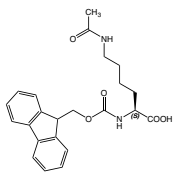
CAS-No.	6404-26-8
Formula	$C_{13}H_{24}N_2O_5$
Mol. weight	288,34 g/mol



FAA8575 Fmoc-L-Lys(Ac)-OH

N-alpha-(9-fluorenylmethyloxycarbonyl)-N-epsilon-acetyl-L-lysine

CAS-No.	159766-56-0
Formula	$C_{23}H_{26}N_2O_5$
Mol. weight	410,47 g/mol



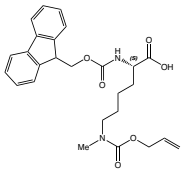
Lysine

Product details

FAA7140 Fmoc-L-Lys(Aloc,Me)-OH

N-alpha-(9-Fluorenylmethyloxycarbonyl)-N-epsilon-allyloxycarbonyl-N-epsilon-methyl-L-lysine

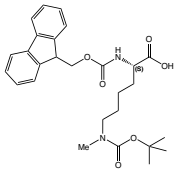
CAS-No. 2246708-86-9
Formula $C_{26}H_{30}N_2O_6$
Mol. weight 466,53 g/mol



FAA1448 Fmoc-L-Lys(Boc,Me)-OH

N-alpha-(9-Fluorenylmethyloxycarbonyl)-N-epsilon-*t*-butyloxycarbonyl-N-epsilon-methyl-L-lysine

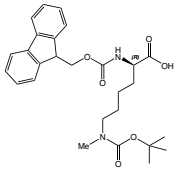
CAS-No. 951695-85-5
Formula $C_{27}H_{34}N_2O_6$
Mol. weight 482,6 g/mol



FAA7180 Fmoc-D-Lys(Boc,Me)-OH

N-alpha-(9-Fluorenylmethyloxycarbonyl)-N-epsilon-*t*-butyloxycarbonyl-N-epsilon-methyl-D-lysine

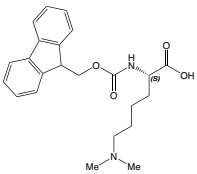
CAS-No. 2044709-77-3
Formula $C_{27}H_{34}N_2O_6$
Mol. weight 482,6 g/mol



FAA1562 Fmoc-L-Lys(Me2)-OH*HCl

N-alpha-(9-Fluorenylmethyloxycarbonyl)-N-epsilon-dimethyl-L-lysine hydrochloride

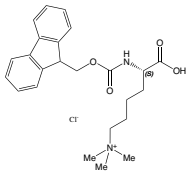
CAS-No. 252049-10-8
Formula $C_{23}H_{28}N_2O_4$*HCl
Mol. weight 396,49*36,45 g/mol



FAA1563 Fmoc-L-Lys(Me3)-OH*Cl

N-alpha-(9-Fluorenylmethyloxycarbonyl)-N-epsilon-trimethylamonium-L-lysine chloride

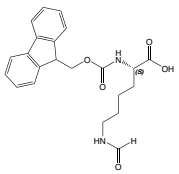
CAS-No. 201004-29-7
Formula $C_{24}H_{31}ClN_2O_4$
Mol. weight 446,97 g/mol



FAA2025 Fmoc-L-Lys(For)-OH

N-alpha-(9-Fluorenylmethyloxycarbonyl)-N-epsilon-formyl-L-lysine

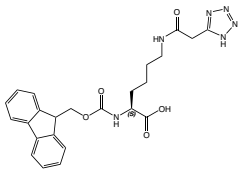
CAS-No. 201004-23-1
Formula $C_{22}H_{24}N_2O_5$
Mol. weight 396,44 g/mol



FAA7965 Fmoc-Lys(Tetrazole-acetyl)-OH

N6-(2-(1H-tetrazol-5-yl)acetyl)-N2-(((9H-fluoren-9-yl) methoxy)carbonyl)-L-lysine

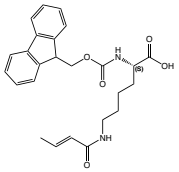
Formula	$C_{24}H_{26}N_6O_5$
Mol. weight	478,51 g/mol



FAA5870 Fmoc-L-Lys(Crotonyl)-OH

N-alpha-(9-Fluorenylmethyloxycarbonyl)-N-epsi-lon-crotonyl-L-lysine

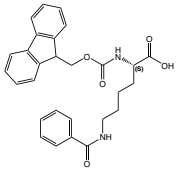
CAS-No.	1451046-72-2
Formula	$C_{25}H_{28}N_2O_5$
Mol. weight	436,5 g/mol



FAA5860 Fmoc-L-Lys(Bz)-OH

N-alpha-(9-Fluorenylmethyloxycarbonyl)-N-epsi-lon-benzoyl-L-lysine

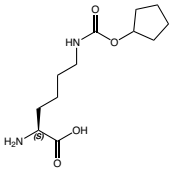
CAS-No.	1007096-37-8
Formula	$C_{28}H_{28}N_2O_5$
Mol. weight	472,53 g/mol



HAA9260 H-L-Lys(Cyc)-OH*HCl

N6-((cyclopentyloxy)carbonyl)-L-lysine

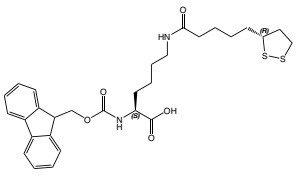
CAS-No.	1428330-92-0
Formula	$C_{12}H_{22}N_2O_4$*HCl
Mol. weight	258,32*36,46 g/mol



FAA9190 Fmoc-L-Lys(R-Lipoyl)-OH

N6-(5-((R)-1,2-dithiolan-3-yl)pentanoyl)-N2-(((9H-fluo-ren-9-yl)methoxy)carbonyl)-L-lysine

CAS-No.	1821162-29-1
Formula	$C_{29}H_{36}N_2O_5S_2$
Mol. weight	556,74 g/mol



Cyclization and Crosslinking

Peptide side-chains offer a versatile platform for designing and modifying peptide structures through techniques such as cyclization and crosslinking. Cyclization, which links two functional groups within a peptide chain, enhances peptide stability, improves resistance to enzymatic degradation, and can increase binding affinity to target molecules. Crosslinking, whether between different peptide chains or between peptides and proteins, provides added stability and is a powerful tool for probing molecular interactions, particularly in live cells or complex biological environments.

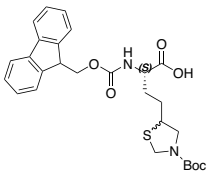
For controlled cyclization, and especially bicyclization, selective reactivities and orthogonal deprotection strategies are highly desirable. Our 1,2-aminothiol and 1,3-thiazole building blocks provide an optimal solution, offering compatibility with SPPS while enabling precise control over the process. After deprotection, cyclization can be achieved through simple intramolecular disulfide bond formation. Alternatively, selective oxime ligation offers another route for cyclization or crosslinking. The aminooxy group facilitates the formation of cyclic peptides and can also be used for protein synthesis, chelation, or peptide derivatization. Unlike thiols, the aminooxy group selectively reacts with free aldehydes, forming a stable oxime bond.

Diazirine-modified lysines, activated by short-wavelength UV light, generate reactive carbene species capable of inserting into C–C, C–H, and O–H bonds. These lysine derivatives are highly effective for probing protein-protein and protein-peptide interactions. Available in both Fmoc- and Boc-protected forms, they can be easily incorporated into synthetic peptides *via* standard coupling methods. The unprotected version can also be incorporated into expressed proteins using an appropriate aminoacyl-tRNA synthetase/tRNA pair, offering additional flexibility in protein engineering.

Product details

FAA9340 Fmoc-L-Lys(4-Thz, Boc)-OH

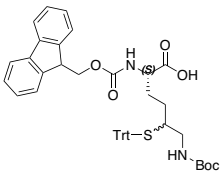
(2S)-2-((((9H-fluoren-9-yl)methoxy)carbonyl) amino)-4-(3-(*tert*-butoxycarbonyl)thiazolidin-5-yl) butanoic acid



CAS-No.	1240666-28-7
Formula	$C_{27}H_{32}N_2O_6S$
Mol. weight	512,62 g/mol

FAA9335 Fmoc-L-Lys(5-STrt, Boc)-OH

(2S)-2-((((9H-fluoren-9-yl)methoxy)carbonyl) amino)-6-((*tert*-butoxycarbonyl)amino)-5-(tritylthio) hexanoic acid

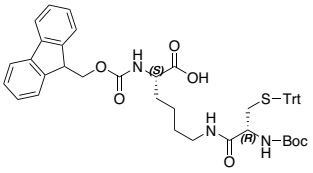


CAS-No.	1240666-29-8
Formula	$C_{45}H_{46}N_2O_6S$
Mol. weight	742,93 g/mol

FAA9315 Fmoc-L-Lys(Boc-Cys(Trt))-OH

N2-(((9H-fluoren-9-yl)methoxy)carbonyl)-N6-(N-(*tert*-butoxycarbonyl)-S-trityl-L-cysteinyl)-L-lysine

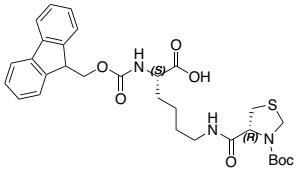
CAS-No.	587854-43-1
Formula	$C_{48}H_{51}N_3O_7S$
Mol. weight	814,01 g/mol



FAA9320 Fmoc-L-Lys(Boc-Thz)-OH

N2-(((9H-fluoren-9-yl)methoxy)carbonyl)-N6-((R)-3-(*tert*-butoxycarbonyl)thiazolidine-4-carbonyl)-L-lysine

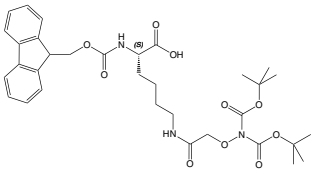
Formula	$C_{30}H_{37}N_3O_7S$
Mol. weight	583,70 g/mol



FAA1955 Fmoc-L-Lys(Boc2-Aoa)-OH

N-alpha-(9-Fluorenylmethyloxycarbonyl)-N-epsilon-[bis(*t*-butyloxycarbonyl)-aminooxy-acetyl]-L-lysine

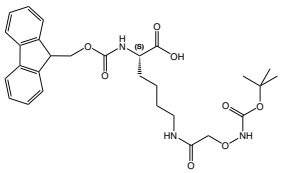
CAS-No.	1008512-23-9
Formula	$C_{33}H_{43}N_3O_{10}$
Mol. weight	641,71 g/mol



FAA4370 Fmoc-L-Lys(Boc-Aoa)-OH

N-alpha-(9-Fluorenylmethyloxycarbonyl)-N-epsilon-(*t*-butyloxycarbonyl)aminooxyacetyl-L-lysine

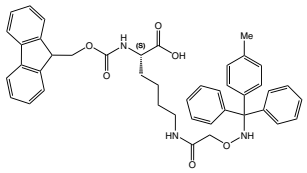
CAS-No.	757960-24-0
Formula	$C_{28}H_{35}N_3O_8$
Mol. weight	541,59 g/mol



FAA4700 Fmoc-L-Lys(Mtt-Aoa)-OH

N-alpha-(9-Fluorenylmethyloxycarbonyl)-N-epsilon-(4-methyltrityl)aminooxyacetyl-L-lysine

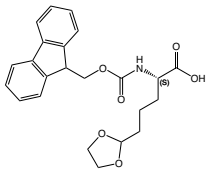
CAS-No.	2250436-45-2
Formula	$C_{43}H_{43}N_3O_6$
Mol. weight	697,82 g/mol



FAA4390 Fmoc-L-Aea-OH

(S)-2-(((9H-fluoren-9-yl)methoxy)carbonylamino)-5-(1,3-dioxolan-2-yl)pentanoic acid

CAS-No.	1234692-73-9
Formula	$C_{23}H_{25}NO_6$
Mol. weight	411,45 g/mol

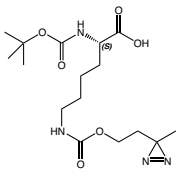


Product details

BAA3080 Boc-L-Photo-Lysine

(S)-2-(*tert*-butoxycarbonylamino)-6-((2-(3-methyl-3H-diazirin-3-yl)ethoxy)carbonylamino)hexanoic acid

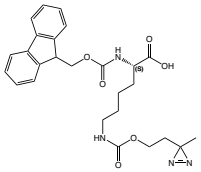
CAS-No.	1330088-06-6
Formula	$C_{16}H_{28}N_4O_6$
Mol. weight	372,42 g/mol



FAA4600 Fmoc-L-Photo-Lysine

(S)-2-(((9H-fluoren-9-yl)methoxy)carbonylamino)-6-((2-(3-methyl-3H-diazirin-3-yl)ethoxy)carbonylamino) hexanoic acid

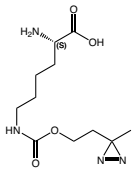
CAS-No.	2250437-42-2
Formula	$C_{26}H_{30}N_4O_6$
Mol. weight	494,54 g/mol



HAA3110 H-L-Photo-Lysine*HCl

(S)-2-amino-6-((2-(3-methyl-3H-diazirin-3-yl)ethoxy) carbonylamino)hexanoic acid hydrochloride

CAS-No.	2421187-79-1
Formula	$C_{11}H_{20}N_4O_4$*HCl
Mol. weight	272,30*36,45 g/mol



Fluorescent Probes

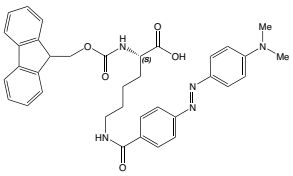
Lysine peptide building blocks pre-conjugated with small fluorescent probes, such as dansyl, DMACA (7-dimethylaminocoumarin-4-acetic acid), MOC (7-methoxycoumarin-3-carboxylic acid), HOC (7-hydroxy-coumarin-3-carboxylic acid), or MCA (7-methoxycoumarin-4-acetic acid), offer ready-to-use tools that simplify experimental workflows. With the fluorophores already pre-attached to the lysine residue, there's no need for additional conjugation steps, saving time and reducing complexity in peptide synthesis. These fluorescently-labeled Fmoc building blocks provide high sensitivity for applications like enzyme assays, cellular imaging, and protein interaction studies. The pre-attached fluorescent tags ensure precise and consistent labeling, allowing you to easily track, visualize, and quantify molecular interactions in real-time. This convenience, combined with the versatility of various fluorophore options, makes them ideal for a wide range of biological and chemical research applications.

Product details

FAA1498 Fmoc-L-Lys(Dabcyl)-OH

N-alpha-(9-Fluorenylmethyloxycarbonyl)-N-epsilon-4-[4'-(dimethylamino)phenylazo]benzoyl-L-lysine

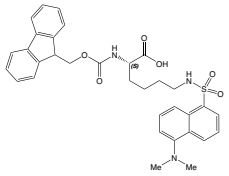
CAS-No.	146998-27-8
Formula	$C_{36}H_{37}N_5O_5$
Mol. weight	619,73 g/mol



FAA1446 Fmoc-L-Lys(Dansyl)-OH

N-alpha-(9-Fluorenylmethyloxycarbonyl)-N-epsilon-dansyl-L-lysine

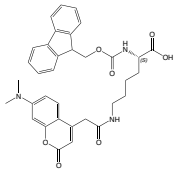
CAS-No.	118584-90-0
Formula	$C_{33}H_{35}N_3O_6S$
Mol. weight	601,7 g/mol



FAA7100 Fmoc-L-Lys(DMACA)-OH

N-alpha-(9-Fluorenylmethyloxycarbonyl)-N-epsilon-(2-(7-(dimethylamino)-2-oxo-2H-chromen-4-yl) acetyl)-L-lysine

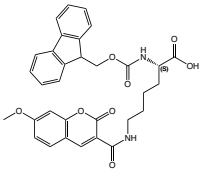
CAS-No.	934961-96-3
Formula	$C_{34}H_{35}N_3O_7$
Mol. weight	597,66 g/mol



FAA5770 Fmoc-L-Lys(MOC)-OH

N-alpha-(9-Fluorenylmethyloxycarbonyl)-N-epsilon-(7-methoxy-2-oxo-2H-chromene-3-carboxy)-L-lysine

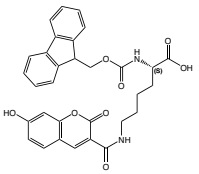
CAS-No.	851606-01-4
Formula	$C_{32}H_{30}N_2O_8$
Mol. weight	570,59 g/mol



FAA5750 Fmoc-L-Lys(HOC)-OH

N-alpha-(9-Fluorenylmethyloxycarbonyl)-N-epsilon-(7-hydroxy-2-oxo-2H-chromene-3-carboxy)-L-lysine

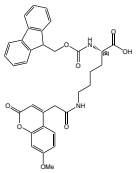
CAS-No.	1157859-84-1
Formula	$C_{31}H_{28}N_2O_8$
Mol. weight	556,56 g/mol



FAA7470 Fmoc-L-Lys(Mca)-OH

N-alpha-(9-Fluorenylmethoxycarbonyl)-N-epsilon-[(7-methoxycoumarin-4-yl)acetyl]-L-lysine

CAS-No.	386213-32-7
Formula	$C_{33}H_{32}N_2O_8$
Mol. weight	584,62 g/mol



Biotinylation

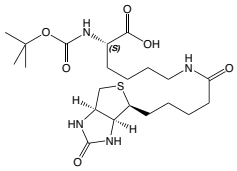
Biotin has gained popularity in biomolecular applications due to its strong affinity for streptavidin, making it an invaluable asset in biochemical techniques for labeling, purification, and detection of proteins and nucleic acids. Our biotinylated lysine building blocks serve as essential tools, offering versatility and ease of use. Available in Fmoc- or Boc-protected forms for SPPS or as free amine versions for tRNA incorporation, these building blocks enable seamless integration into peptides and proteins. With both D and L configurations for stereochemical control and options for either aliphatic or PEG spacers, you can optimize biotin accessibility and flexibility. These spacers reduce steric hindrance, enhancing the efficiency of affinity purification, pull-down assays, and protein labeling protocols. Additionally, biotinylated lysine can be utilized for cellular imaging and targeted delivery, providing a powerful means of capturing, labeling, and isolating biomolecules with precision across diverse research and therapeutic applications.

Product details

BAA1276 Boc-L-Lys(Biotin)-OH

N-alpha-*t*-Butyloxycarbonyl-N-epsilon-biotinyl-L-lysine

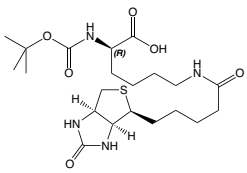
CAS-No.	62062-43-5
Formula	$C_{21}H_{36}N_4O_6S$
Mol. weight	472,6 g/mol



BAA1038 Boc-D-Lys(Biotin)-OH

N-alpha-*t*-Butyloxycarbonyl-N-epsilon-(Biotin)-D-lysine

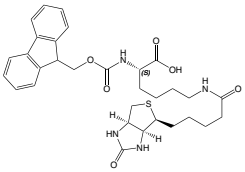
CAS-No.	1272755-71-1
Formula	$C_{21}H_{36}N_4O_6S$
Mol. weight	472,61 g/mol



FAA1443 Fmoc-L-Lys(Biotin)-OH

N-alpha-(9-Fluorenylmethyloxycarbonyl)-N-epsilon-biotinyl-L-lysine

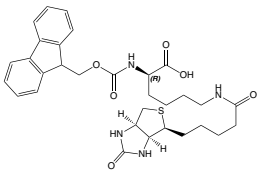
CAS-No.	146987-10-2
Formula	$C_{31}H_{38}N_4O_6S$
Mol. weight	594,7 g/mol



FAA1451 Fmoc-D-Lys(Biotin)-OH

N-alpha-(9-Fluorenylmethyloxycarbonyl)-N-epsilon-biotinyl-D-lysine

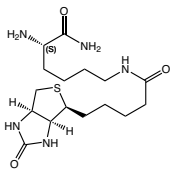
CAS-No.	110990-09-5
Formula	$C_{31}H_{38}N_4O_6S$
Mol. weight	594,7 g/mol



HAA3430 H-L-Lys(Biotin)-NH_2

N-epsilon-biotin-L-lysine amide

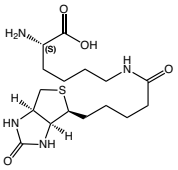
CAS-No.	61125-53-9
Formula	$C_{16}H_{29}N_5O_3S$
Mol. weight	371,50 g/mol



LS-3510 Biocytin

N-epsilon-Biotinyl-L-Lysine

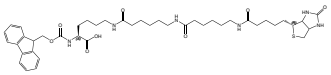
CAS-No.	576-19-2
Formula	$C_{16}H_{28}N_4O_4S$
Mol. weight	372,48 g/mol



FAA8765 Fmoc-L-Lys(Biotin-Ahx-Ahx)-OH

N-alpha-(9-Fluorenylmethyloxycarbonyl)-N-epsilon-(biotinyl-biscaproyl)-L-lysine

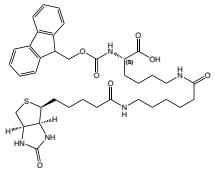
Formula	$C_{43}H_{60}N_6O_8S$
Mol. weight	821,05 g/mol



FAA4670 Fmoc-L-Lys(Biotin-Ahx)-OH

N-alpha-(9-Fluorenylmethyloxycarbonyl)-N-epsilon-[6-(biotinylamino)hexanoyl]-L-lysine

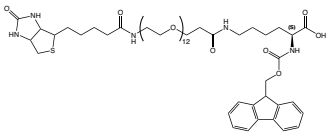
CAS-No.	160158-05-4
Formula	$C_{37}H_{49}N_5O_7S$
Mol. weight	707,88 g/mol



PEG4450 Fmoc-L-Lys(PEG(12)-Biotin)-OH

N-alpha-(9-Fluorenylmethyloxycarbonyl)-N-epsilon-[alpha-Biotin-omega-propionyl dodeca(ethylene glycol)]-L-lysine

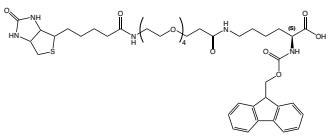
CAS-No.	1334172-65-4
Formula	$C_{58}H_{91}N_5O_{19}S$
Mol. weight	1194,43 g/mol



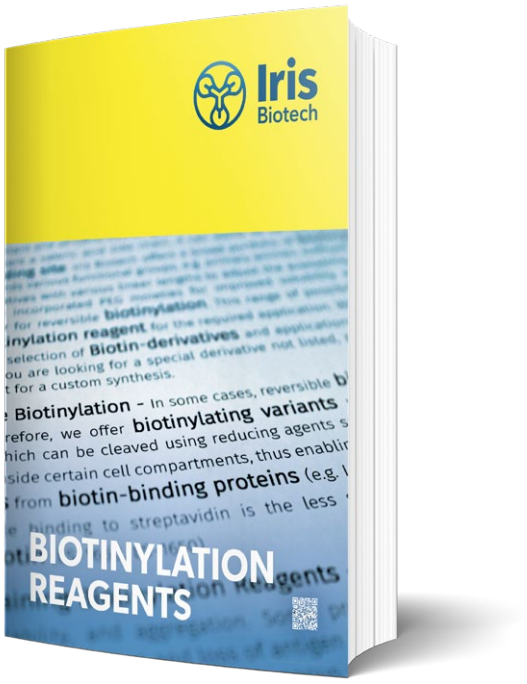
PEG4440 Fmoc-L-Lys(PEG(4)-Biotin)-OH

N-alpha-(9-Fluorenylmethyloxycarbonyl)-N-epsilon-[15-(biotinamido)-4,7,10,13-tetraoxa-pentadecanoyl]-L-lysine

CAS-No.	1334172-64-3
Formula	$C_{42}H_{59}N_5O_{11}S$
Mol. weight	842,01 g/mol



For more biotinylated building blocks check out our brochure on Biotinylation Reagents.



Aliphatic Side-chains/Semaglutide Building Blocks

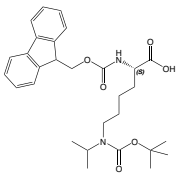
Lysine building blocks with aliphatic side-chains provide valuable tools for modifying peptides and proteins with hydrophobic properties. Our selection includes typical fatty acids ranging from C6 to C18, available in both saturated and unsaturated forms, including mono- and di-unsaturated options. These aliphatic side-chains enhance lipid interactions, improve membrane permeability, and increase the hydrophobicity of peptide conjugates, making them useful for applications in drug delivery, protein stabilization, and targeting cell membranes. The flexibility in chain length and saturation allows for fine-tuning of hydrophobic interactions, optimizing the bioactivity and pharmacokinetics of the modified peptides.

Product details

FAA1447 Fmoc-L-Lys(Boc, iPr)-OH

N-alpha-(9-Fluorenylmethyloxycarbonyl)-N-epsilon-*t*-butyloxycarbonyl-N-epsilon-i-propyl-L-lysine

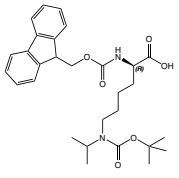
CAS-No.	201003-48-7
Formula	$C_{29}H_{38}N_2O_6$
Mol. weight	510,6 g/mol



FAA8720 Fmoc-D-Lys(Boc, iPr)-OH

N-alpha-(9-Fluorenylmethyloxycarbonyl)-N-epsilon-*t*-butyloxycarbonyl-N-epsilon-i-propyl-D-lysine

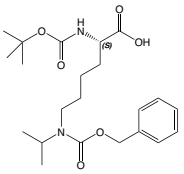
CAS-No.	1313054-37-3
Formula	$C_{29}H_{38}N_2O_6$
Mol. weight	510,6 g/mol



BAA1407 Boc-L-Lys(iPr,Z)-OH

N-alpha-*t*-Butyloxycarbonyl-N-epsilon-benzyloxycarbonyl-N-epsilon-i-propyl-L-lysine

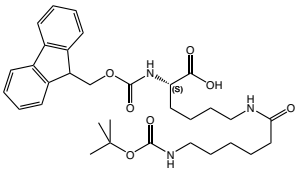
CAS-No.	125323-99-1
Formula	$C_{22}H_{34}N_2O_6$
Mol. weight	422,51 g/mol



FAA4660 Fmoc-L-Lys(Boc-Ahx)-OH

N-alpha-(9-Fluorenylmethyloxycarbonyl)-N-epsilon-[6-(*t*-butyloxycarbonyl)aminohexanoyl]-L-lysine

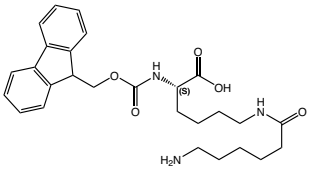
CAS-No.	2250437-37-5
Formula	$C_{32}H_{43}N_3O_7$
Mol. weight	581,7 g/mol



FAA4730 Fmoc-L-Lys(Ahx)-OH*HCl

N-alpha-(9-Fluorenylmethyloxycarbonyl)-N-epsilon-(6-aminohexanoyl)-L-lysine hydrochloride

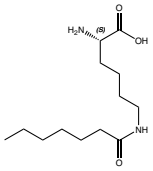
CAS-No.	2057432-43-4 (net)
Formula	$C_{27}H_{35}N_3O_5$*HCl
Mol. weight	481,58*36,45 g/mol



HAA4930 H-L-Lys(Heptanoyl)-OH

N-epsilon-Heptanoyl-L-lysine

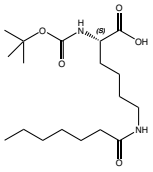
CAS-No.	2253771-13-8
Formula	$C_{13}H_{26}N_2O_3$
Mol. weight	258,36 g/mol



BAA3960 Boc-L-Lys(Heptanoyl)-OH

N-alpha-*t*-Butyloxycarbonyl-N-epsilon-heptanoyl-L-lysine

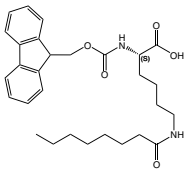
CAS-No.	2319669-05-9
Formula	$C_{18}H_{34}N_2O_5$
Mol. weight	358,47 g/mol



FAA3610 Fmoc-L-Lys(Octanoyl)-OH

N-alpha-(9-Fluorenylmethyloxycarbonyl)-N-epsilon-octanoyl-L-lysine

CAS-No.	1128181-16-7
Formula	$C_{29}H_{38}N_2O_5$
Mol. weight	494,62 g/mol

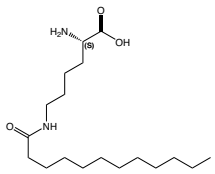


Product details

HAA4020 H-L-Lys(lauroyl)-OH

N-epsilon-Lauroyl-L-lysine

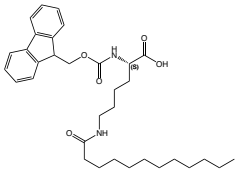
CAS-No. 52315-75-0
Formula $C_{18}H_{36}N_2O_3$
Mol. weight 328,49 g/mol



FAA7500 Fmoc-L-Lys(lauroyl)-OH

N-alpha-(9-Fluorenylmethyloxycarbonyl)-N-epsilon-lauroyl-L-lysine

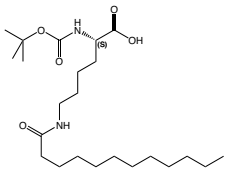
CAS-No. 1128181-21-4
Formula $C_{33}H_{46}N_2O_5$
Mol. weight 550,73 g/mol



BAA3660 Boc-L-Lys(lauroyl)-OH

N-alpha-*t*-butyloxycarbonyl-N-epsilon-lauroyl-L-lysine

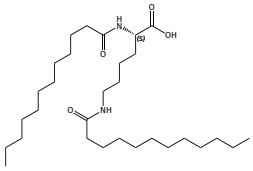
CAS-No. 702706-14-7
Formula $C_{23}H_{44}N_2O_5$
Mol. weight 428,61 g/mol



HAA4030 Lauroyl-L-Lys(Lauroyl)-OH

N-alpha,N-epsilon-Bis(dodecanoyl)-L-lysine

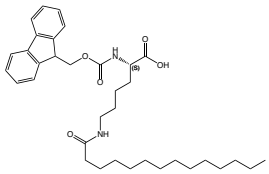
CAS-No. 14379-54-5
Formula $C_{30}H_{58}N_2O_4$
Mol. weight 510,79 g/mol



FAA7490 Fmoc-L-Lys(Myr)-OH

N-alpha-(9-Fluorenylmethyloxycarbonyl)-N-epsilon-myristoyl-L-lysine

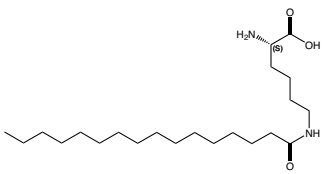
CAS-No. 1128181-23-6
Formula $C_{35}H_{50}N_2O_5$
Mol. weight 578,78 g/mol



HAA3090 H-L-Lys(Palm)-OH

N-epsilon-Palmitoyl-L-lysine

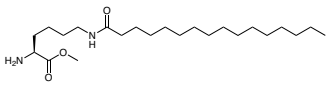
CAS-No. 59012-43-0
Formula $C_{22}H_{44}N_2O_3$
Mol. weight 384,61 g/mol



HAA9225 H-L-Lys(Palm)-OMe*HCl

Methyl N-epsilon-palmitoyl-L-lysine hydrochloride

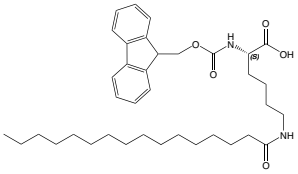
CAS-No. 890026-44-5
Formula $C_{23}H_{46}N_2O_3$*HCl
Mol. weight 398,63*36,46 g/mol



FAA1778 Fmoc-L-Lys(Palm)-OH

N-alpha-(9-Fluorenylmethyloxycarbonyl)-N-epsilon-palmitoyl-L-lysine

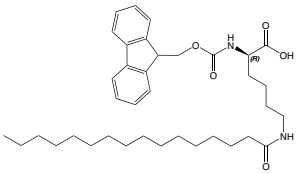
CAS-No. 201004-46-8
Formula $C_{37}H_{54}N_2O_5$
Mol. weight 606,85 g/mol



FAA1776 Fmoc-D-Lys(Palm)-OH

N-alpha-(9-Fluorenylmethyloxycarbonyl)-N-epsilon-palmitoyl-D-lysine

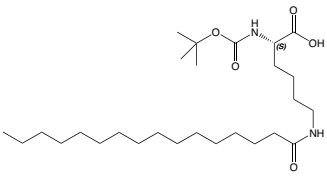
CAS-No. 1301706-55-7
Formula $C_{37}H_{54}N_2O_5$
Mol. weight 606,85 g/mol



BAA1480 Boc-L-Lys(Palm)-OH

N-alpha-*t*-Butyloxycarbonyl-N-epsilon-palmitoyl-L-lysine

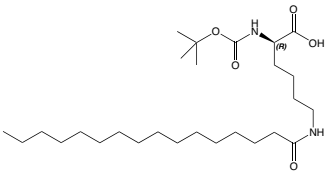
CAS-No. 59515-45-6
Formula $C_{27}H_{52}N_2O_5$
Mol. weight 484,73 g/mol



BAA1479 Boc-D-Lys(Palm)-OH

N-alpha-*t*-Butyloxycarbonyl-N-epsilon-palmitoyl-D-lysine

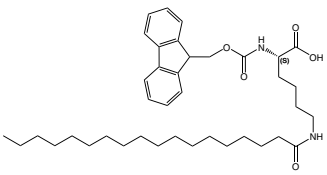
CAS-No. 1301706-37-5
Formula $C_{27}H_{52}N_2O_5$
Mol. weight 484,73 g/mol



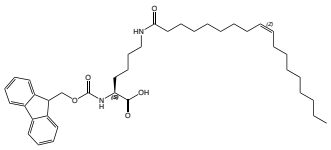
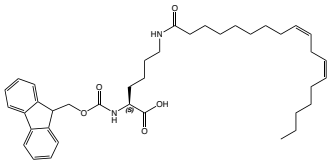
FAA3510 Fmoc-L-Lys(Stea)-OH

N-alpha-(9-Fluorenylmethyloxycarbonyl)-N-epsilon-stearoyl-L-lysine

CAS-No. 1128181-25-8
Formula $C_{39}H_{58}N_2O_5$
Mol. weight 634,89 g/mol



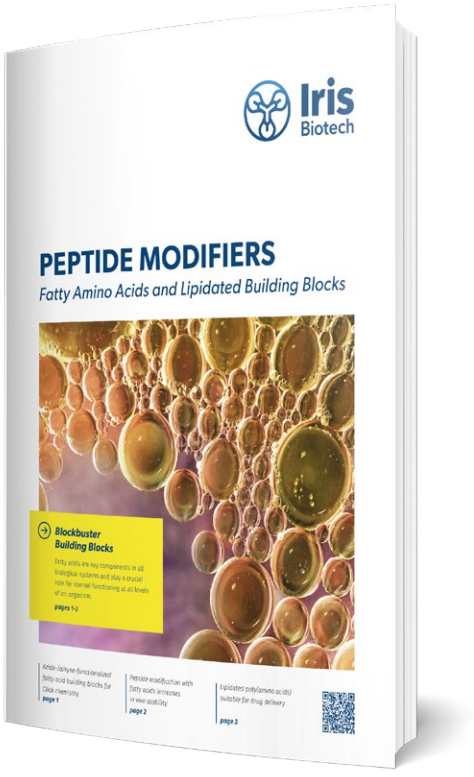
Lysine

		Product details
FAA8925	**Fmoc-L-Lys(Oleoyl)-OH** N2-(((9H-fluoren-9-yl)methoxy)carbonyl)-N6-oleoyl-L-lysine Formula $C_{39}H_{56}N_2O_5$ Mol. weight 632,89 g/mol	
FAA9195	**Fmoc-L-Lys(Linoleoyl)-OH** N2-(((9H-fluoren-9-yl)methoxy)carbonyl)-N6-((9Z,12Z)-octadeca-9,12-dienoyl)-L-lysine Formula $C_{39}H_{54}N_2O_5$ Mol. weight 630,87 g/mol	

Additionally, we offer lysine derivatives specifically designed for semaglutide-related peptides. Semaglutide, a GLP-1 receptor agonist used in treating type 2 diabetes and obesity, benefits from lysine derivatives that mimic the natural structure of GLP-1 while incorporating fatty acid side-chains. These specialized lysine building blocks, which incorporate long-chain fatty acids, allow for extended circulation time in the bloodstream by promoting albumin binding. This results in improved stability and prolonged therapeutic effects. Our lysine derivatives for semaglutide synthesis are tailored to support the creation of next-generation GLP-1 analogs with enhanced efficacy and better pharmacokinetic profiles, offering an ideal platform for peptide drug development.

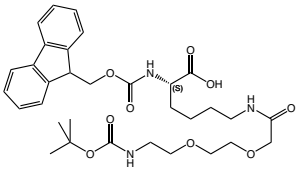
For more information on available catalog products related to fatty amino acids and lipidated building blocks, please see our flyer on peptide modifiers.

For any other derivative, please inquire for a custom synthesis!



FAA3730 Fmoc-L-Lys(Boc-AEEA)-OH

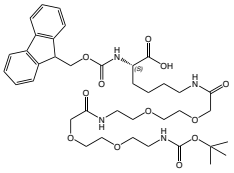
N-alpha-(9-Fluorenylmethyloxycarbonyl)-N-epsilon-(2-(2-(2-(*t*-butyloxycarbonyl)aminoethoxy)ethoxy) acetyl)-L-lysine



CAS-No.	1662688-16-5
Formula	$C_{32}H_{43}N_3O_9$
Mol. weight	613,17 g/mol

FAA9500 Fmoc-L-Lys(Boc-AEEA-AEEA)-OH

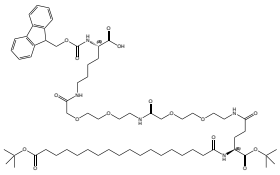
(S)-28-((((9H-fluoren-9-yl)methoxy)carbonyl)amino)-2,2-dimethyl-4,13,22-trioxo-3,8,11,17,20-pentaoxa-5,14,23-triazanonacosan-29-oic acid



CAS-No.	1662688-18-7
Formula	$C_{38}H_{54}N_4O_{12}$
Mol. weight	758,87 g/mol

FAA7640 Fmoc-L-Lys(Ggu-L-Glu(AA-AA))-OH

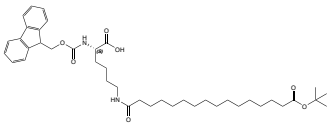
Fmoc-Lys(*t*Bu-OOC-C16-CO-Glu(AEEA-AEEA)-O*t*Bu)-OH



CAS-No.	1662688-20-1
Formula	$C_{64}H_{101}N_5O_{16}$
Mol. weight	1196,51 g/mol

FAA8990 Fmoc-L-Lys(*t*BuO-Thap)-OH

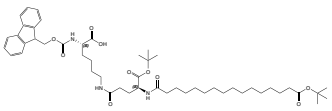
N2-(((9H-fluoren-9-yl)methoxy)carbonyl)-N6-(16-(*tert*-butoxy)-16-oxohexadecanoyl)-L-lysine



CAS-No.	2952671-06-4
Formula	$C_{41}H_{60}N_2O_7$
Mol. weight	692,94 g/mol

FAA8980 Fmoc-L-Lys(*t*BuO-Thap-L-Glu-O*t*Bu)-OH

N2-(((9H-fluoren-9-yl)methoxy)carbonyl)-N6-((S)-5-(*tert*-butoxy)-4-(16-(*tert*-butoxy)-16-oxohexadecanamido)-5-oxopentanoyl)-L-lysine

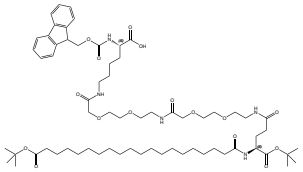


CAS-No.	1671100-52-9
Formula	$C_{50}H_{75}N_3O_{10}$
Mol. weight	878,16 g/mol

Product details

FAA9210 Fmoc-L-Lys[C20-O*t*Bu-L-Glu(O*t*Bu)-AA-AA]-OH

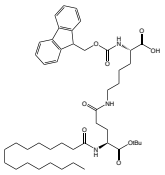
(25S,52S)-52-((((9H-fluoren-9-yl)methoxy)carbonyl) amino)-25-(*tert*-butoxycarbonyl)-2,2-dimethyl-4,23,28,37,46-pentaoxo-3,32,35,41,44-pentaoxa-24,29,38,47-tetraazatripentacontan-53-oic acid



CAS-No.	2915356-76-0
Formula	$C_{66}H_{105}N_5O_{16}$
Mol. weight	1224,59 g/mol

FAA3790 Fmoc-L-Lys(Palm-L-Glu-O*t*Bu)-OH

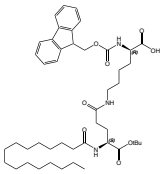
N-alpha-(9-Fluorenylmethyloxycarbonyl)-N-epsilon-(N-alpha'-palmitoyl-L-glutamic-acid alpha'-*t*-butyl ester)-L-lysine



CAS-No.	1491158-62-3
Formula	$C_{46}H_{69}N_3O_8$
Mol. weight	792,06 g/mol

FAA7480 Fmoc-D-Lys(Palm-L-Glu-O*t*Bu)-OH

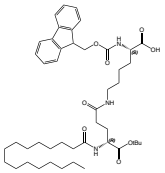
N-alpha-(9-Fluorenylmethyloxycarbonyl)-N-epsilon-(N-alpha'-palmitoyl-L-glutamic-acid alpha'-*t*-butyl ester)-D-lysine



CAS-No.	1491158-71-4
Formula	$C_{46}H_{69}N_3O_8$
Mol. weight	792,06 g/mol

FAA7760 Fmoc-L-Lys(Palm-D-Glu-O*t*Bu)-OH

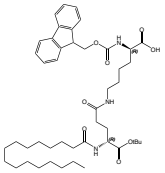
N-alpha-(9-Fluorenylmethyloxycarbonyl)-N-epsilon-(N-alpha'-palmitoyl-D-glutamic-acid alpha'-*t*-butyl ester)-L-lysine



Formula	$C_{46}H_{69}N_3O_8$
Mol. weight	792,06 g/mol

FAA7750 Fmoc-D-Lys(Palm-D-Glu-O*t*Bu)-OH

N-alpha-(9-Fluorenylmethyloxycarbonyl)-N-epsilon-(N-alpha'-palmitoyl-D-glutamic-acid alpha'-*t*-butyl ester)-D-lysine



Formula	$C_{46}H_{69}N_3O_8$
Mol. weight	792,06 g/mol

Clickable Lysines

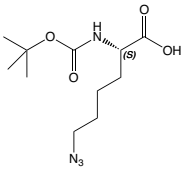
Our portfolio of lysine building blocks is also well-suited for a wide range of click chemistry applications, providing researchers with flexibility and precision. We offer standard lysine azides compatible with both Boc and Fmoc synthetic strategies, as well as options for incorporation *via* amber suppression for unnatural amino acid techniques. Additionally, we provide lysine derivatives modified with azide or alkyne groups, available with various spacers including polyethoxy, aliphatic, and even fluorinated spacers, allowing for fine-tuning of the distance and reactivity in click reactions.

Product details

BAA1810 Boc-L-Lys(N_3)-OH*CHA

N-alpha-*t*-Butyloxycarbonyl-epsilon-azido-L-lysine cyclohexylamine

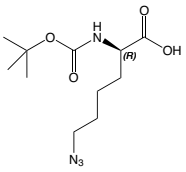
CAS-No.	2098497-30-2
Formula	$C_{11}H_{20}N_4O_4*C_6H_{13}N$
Mol. weight	272,30*99,18 g/mol



BAA1815 Boc-D-Lys(N_3)-OH*CHA

N-alpha-*t*-Butyloxycarbonyl-epsilon-azido-D-lysine cyclohexylamine

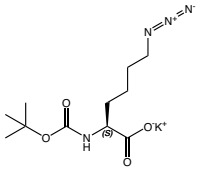
CAS-No.	1858224-39-1
Formula	$C_{11}H_{20}N_4O_4*C_6H_{13}N$
Mol. weight	272,30*99,18 g/mol



BAA4900 Boc-L-Lys(N_3)-OK

Boc-azidolysine potassium salt

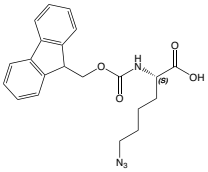
CAS-No.	846549-33-5
Formula	$C_{11}H_{19}KN_4O_4$
Mol. weight	310,40 g/mol



FAA1793 Fmoc-L-Lys(N_3)-OH

N-alpha-(9-Fluorenylmethyloxycarbonyl)-epsilon-azido-L-lysine

CAS-No.	159610-89-6
Formula	$C_{21}H_{22}N_4O_4$
Mol. weight	394,42 g/mol



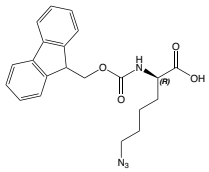
Lysine

Product details

FAA1835 Fmoc-D-Lys(N_3)-OH

N-alpha-(9-Fluorenylmethyloxycarbonyl)-epsilon-azido-D-lysine

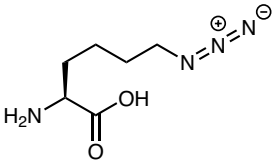
CAS-No.	1198791-53-5
Formula	$C_{21}H_{22}N_4O_4$
Mol. weight	394,42 g/mol



HAA9210 H-L-Lys(N_3)-OH

N-epsilon-azido-L-lysine

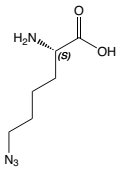
CAS-No.	159610-92-1
Formula	$C_6H_{12}N_4O_2$
Mol. weight	172,19 g/mol



HAA1625 H-L-Lys(N_3)-OH*HCl

N-epsilon-Azido-L-lysine hydrochloride

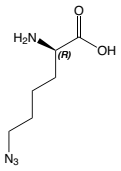
CAS-No.	1454334-76-9
Formula	$C_6H_{12}N_4O_2$*HCl
Mol. weight	172,19*36,45 g/mol



HAA1890 H-D-Lys(N_3)-OH*HCl

N-epsilon-Azido-D-lysine hydrochloride

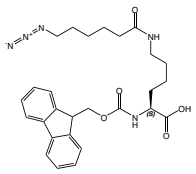
CAS-No.	2098497-01-7
Formula	$C_6H_{12}N_4O_2$*HCl
Mol. weight	172,19*36,45 g/mol



FAA7915 Fmoc-L-Lys(N_3-Aca)-OH

N2-(((9H-fluoren-9-yl)methoxy)carbonyl)-N6-(6-azidohexanoyl)-L-lysine

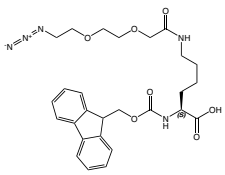
CAS-No.	1973460-20-6
Formula	$C_{27}H_{33}N_5O_5$
Mol. weight	507,59 g/mol



FAA7925 Fmoc-L-Lys(N_3-AEEA)-OH

N2-(((9H-fluoren-9-yl)methoxy)carbonyl)-N6-(2-(2-(2-azidoethoxy)ethoxy)acetyl)-L-lysine

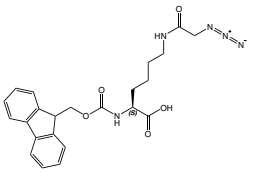
CAS-No.	1236293-83-6
Formula	$C_{27}H_{33}N_5O_7$
Mol. weight	539,59 g/mol



FAA8855 Fmoc-L-Lys(N_3-Gly)-OH

Azidoacetyl-Fmoc-L-Lysine

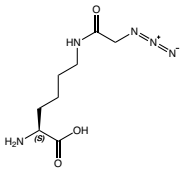
CAS-No.	1198617-89-8
Formula	$C_{23}H_{25}N_5O_5$
Mol. weight	451,48 g/mol



HAA9340 H-L-Lys(N_3-Gly)-OH*HCl

Azidoacetyl-L-Lysine hydrochloride

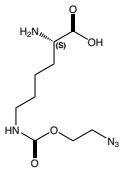
CAS-No.	1198617-82-1 net
Formula	$C_8H_{15}N_5O_3$
Mol. weight	229,24 g/mol



HAA2080 H-L-Lys(EO-N_3)-OH*HCl

(S)-2-amino-6-((2-azidoethoxy)carbonylamino)hexanoic acid hydrochloride

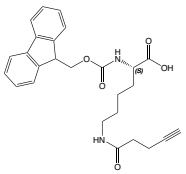
CAS-No.	1994331-17-7
Formula	$C_9H_{17}N_5O_4$*HCl
Mol. weight	259,26*36,46 g/mol



FAA4175 Fmoc-L-Lys(pentynoyl)-OH

N-alpha-(9-Fluorenylmethyloxycarbonyl)-N-epsilon-(4-pentynoyl)-L-lysine

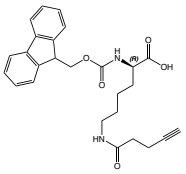
CAS-No.	1159531-18-6
Formula	$C_{26}H_{28}N_2O_5$
Mol. weight	448,51 g/mol



FAA8135 Fmoc-D-Lys(pentynoyl)-OH

N-alpha-(9-Fluorenylmethyloxycarbonyl)-N-epsilon-(4-pentynoyl)-D-lysine

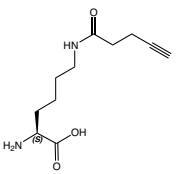
CAS-No.	2576508-18-2
Formula	$C_{26}H_{28}N_2O_5$
Mol. weight	448,51 g/mol



HAA9440 H-L-Lys(Pentynoyl)-OH

N6-(pent-4-ynoyl)-L-lysine

CAS-No.	1167421-22-8
Formula	$C_{11}H_{18}N_2O_3$
Mol. weight	226,28 g/mol

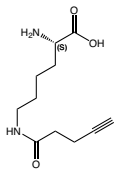


Product details

HAA2085 H-L-Lys(Pentynoyl)-OH*HCl

(S)-2-Amino-6-(pent-4-ynamido)hexanoic acid hydrochloride

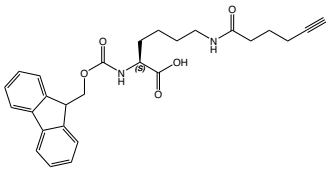
CAS-No. 1167421-22-8 net
Formula $C_{11}H_{18}N_2O_3$ *HCl
Mol. weight 226,27 *36,5 g/mol



FAA8995 Fmoc-L-Lys(Hexynoyl)-OH

N2-(((9H-fluoren-9-yl)methoxy)carbonyl)-N6-(hex-5-ynoyl)-L-lysine

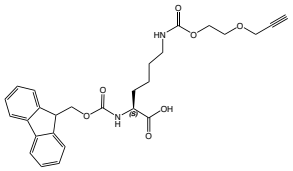
CAS-No. 1219440-73-9
Formula $C_{27}H_{30}N_2O_5$
Mol. weight 462,55 g/mol



FAA8905 Fmoc-L-Lys(CO-Ethoxypropargyl)-OH

(2S)-2-({[(9H-fluoren-9-yl)methoxy]carbonyl}amino)-6-({[2-(prop-2-yn-1-yloxy)ethoxy]carbonyl}amino) hexanoic acid

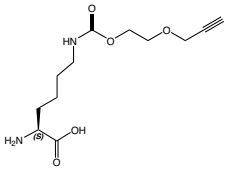
Formula $C_{27}H_{30}N_2O_7$
Mol. weight 494,54 g/mol



HAA9390 H-L-Lys(CO-Ethoxypropargyl)-OH*HCl

(2S)-2-amino-6-({[2-(prop-2-yn-1-yloxy)ethoxy]carbonyl}amino)hexanoic acid

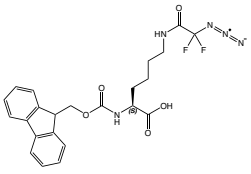
Formula $C_{12}H_{20}N_2O_5$*HCl
Mol. weight 272,30*36,45 g/mol



FAA8825 Fmoc-L-Lys(COCF2N$_3$)-OH

N2-(((9H-fluoren-9-yl)methoxy)carbonyl)-N6-(2-azido-2,2-difluoroacetyl)-L-lysine

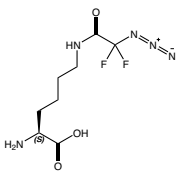
Formula $C_{23}H_{23}F_2N_5O_5$
Mol. weight 487,46 g/mol



HAA9295 H-L-Lys(COCF2N$_3$)-OH*HCl

N6-(2-azido-2,2-difluoroacetyl)-L-lysine

Formula $C_8H_{13}F_2N_5O_3$*HCl
Mol. weight 265,22*36,46 g/mol

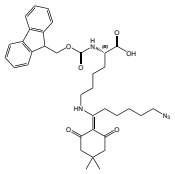


For more specialized needs, we offer removable click functionalities, such as azido-Z protecting groups, as well as Poc/Pryoc (propargyloxycarbonyl) building blocks, which enable selective deprotection and removal of the conjugate when needed. For *in vivo* applications where copper toxicity may be a concern, we also provide lysine building blocks modified for third-generation click chemistry. These building blocks, based on the copper-free reverse Diels-Alder reaction, offer biocompatible alternatives ideal for live-cell labeling and other sensitive applications.

Product details

FAA8145 Fmoc-L-Lys(N_3-Aca-DIM)-OH

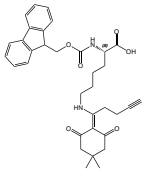
N-alpha-(9-Fluorenylmethyloxycarbonyl)-N-epsilon-[6-azido-1-(4,4-dimethyl-2,6- dioxocyclohexylidene)hexyl]-L-lysine



CAS-No.	2408993-39-3
Formula	$C_{35}H_{43}N_5O_6$
Mol. weight	629,76 g/mol

FAA8115 Fmoc-L-Lys(Pentynoyl-DIM)-OH

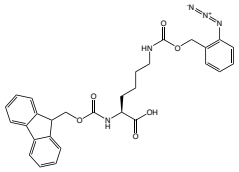
N-alpha-(9-Fluorenylmethyloxycarbonyl)-N-epsilon-[1-(4,4-dimethyl-2,6- dioxocyclohexylidene)pent-4-yn-1-yl]-L-lysine



CAS-No.	2408993-33-7
Formula	$C_{34}H_{38}N_2O_6$
Mol. weight	570,69 g/mol

FAA8880 Fmoc-L-Lys(2-N_3-Z)-OH

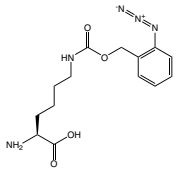
(2S)-6-(2-Azido-benzyloxycarbonylamino)-2-(9H-fluoren-9-ylmethoxycarbonylamino)-hexanoic acid



CAS-No.	2714331-96-9
Formula	$C_{29}H_{29}N_5O_6$
Mol. weight	543,58 g/mol

HAA9380 H-L-Lys(2-N_3-Z)-OH

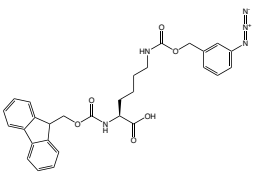
N6-(((2-azidobenzyl)oxy)carbonyl)-L-lysine



CAS-No.	1131963-69-3
Formula	$C_{14}H_{19}N_5O_4$
Mol. weight	321,34 g/mol

FAA8890 Fmoc-L-Lys(3-N_3-Z)-OH

(2S)-6-(3-Azido-benzyloxycarbonylamino)-2-(9H-fluoren-9-ylmethoxycarbonylamino)-hexanoic acid



CAS-No.	1836202-27-7
Formula	$C_{29}H_{29}N_5O_6$
Mol. weight	543,58 g/mol

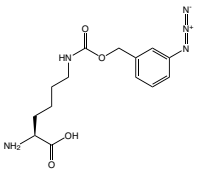
Lysine

Product details

HAA9370 H-L-Lys(3-N_3-Z)-OH*HCl

N6-(((3-azidobenzyl)oxy)carbonyl)-L-lysine

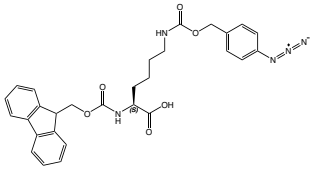
CAS-No.	2084913-47-1
Formula	$C_{14}H_{19}N_5O_4$*HCl
Mol. weight	321,34*36,45 g/mol



FAA8830 Fmoc-L-Lys(4-N_3-Z)-OH

N2-((((9H-fluoren-9-yl)methoxy)carbonyl)-N6-((((4-azidobenzyl)oxy)carbonyl)-L-lysine

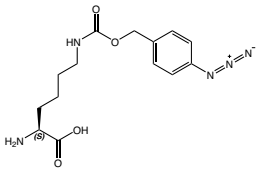
CAS-No.	1446511-14-3
Formula	$C_{29}H_{29}N_5O_6$
Mol. weight	543,58 g/mol



HAA9315 H-L-Lys(4-N_3-Z)-OH*HCl

(2S)-6-(4-Azido-benzyloxycarbonylamino)-2-amino-hexanoic acid hydrochloride

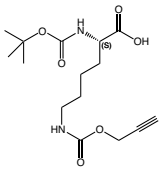
CAS-No.	2084913-49-3
Formula	$C_{14}H_{19}N_5O_4$*HCl
Mol. weight	321,34*36,46 g/mol



BAA1960 Boc-L-Lys(Poc)-OH

(S)-2-(t-Butyloxycarbonylamino)-6-((prop-2-ynyloxy)carbonylamino)hexanoic acid

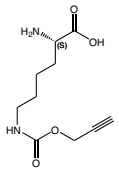
CAS-No.	1202704-91-3
Formula	$C_{15}H_{24}N_2O_6$
Mol. weight	328,36 g/mol



HAA2090 H-L-Lys(Poc)-OH*HCl

(S)-Amino-6-((prop-2-ynyloxy)carbonylamino)hexanoic acid hydrochloride

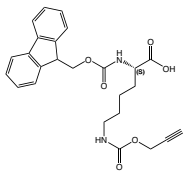
CAS-No.	1428330-91-9
Formula	$C_{10}H_{16}N_2O_4$*HCl
Mol. weight	228,25*36,45 g/mol



FAA3150 Fmoc-L-Lys(Pryoc)-OH

(S)-2-((9-Fluorenylmethyloxyl)amino)-6-((prop-2-ynyloxy)carbonylamino)hexanoic acid

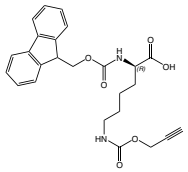
CAS-No.	1584133-25-4
Formula	$C_{25}H_{26}N_2O_6$
Mol. weight	450,48 g/mol



FAA9565 Fmoc-D-Lys(Pryoc)-OH

N2-(((9H-fluoren-9-yl)methoxy)carbonyl)-N6-((prop-2-yn-1-yloxy)carbonyl)-D-lysine

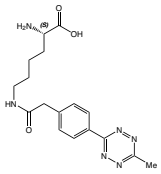
CAS-No.	2991236-42-9
Formula	$C_{25}H_{26}N_2O_6$
Mol. weight	450,49 g/mol



HAA9170 H-L-Lys(MeTz-PhAc)-OH*TFA

N-(2-(4-(6-methyl-1,2,4,5-tetrazin-3-yl)phenyl)acetyl)-L-lysine TFA salt

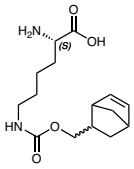
CAS-No.	2578384-82-2 (net)
Formula	$C_{17}H_{22}N_6O_3*CF_3COOH$
Mol. weight	358,40*114,02 g/mol



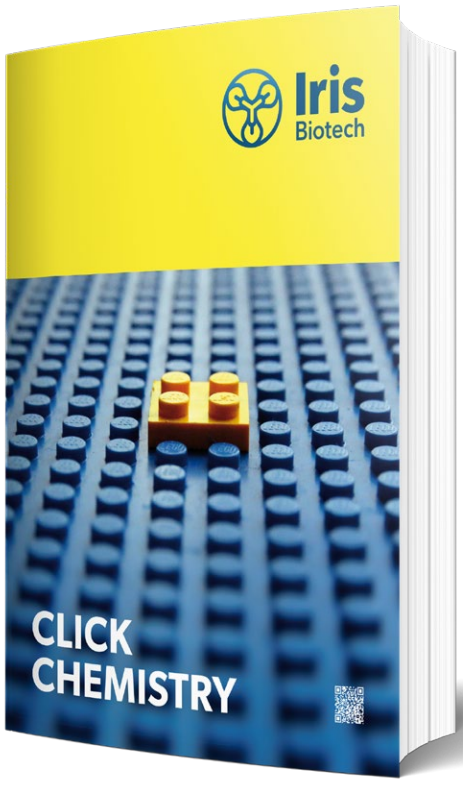
HAA9235 H-L-Lys(Norbornene-methoxycarbonyl)-OH*HCl

N-epsilon-(norbornene-methoxycarbonyl)-L-lysine hydrochloride

CAS-No.	1378916-76-7
Formula	$C_{15}H_{24}N_2O_4*HCl$
Mol. weight	296,37*36,46 g/mol



For further details on our comprehensive range of click chemistry-compatible lysine derivatives, please refer to our Click Chemistry Brochure!



Main-Chain Modifications

Our lysine main-chain modifications offer a range of options to enhance peptide stability, structure, and functionality. These modifications can significantly impact peptide behavior, making them highly valuable for drug development, protein engineering, and biochemical studies. For example, α-methylation, N-methylation, and β-dimethylation introduce steric bulk that imposes conformational constraints on the peptide, helping to stabilize specific secondary structures like α-helices or β-sheets. This rigidity can also block protease access, resulting in increased resistance to enzymatic degradation—a key benefit for therapeutic peptides requiring enhanced stability.

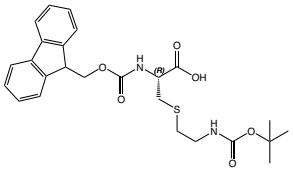
In addition to methylation, we provide extended lysine derivatives such as homolysine, dihomolysine, and trihomolysine, which feature longer side-chains for added flexibility and varied binding interactions. For more specialized needs, our hetero side-chains like 2-thiolysine and 2-oxolysine offer unique functional groups that can introduce reactivity or serve as analogs for posttranslational modifications enabling new approaches for peptide-protein interaction studies or drug design.

For peptides requiring shorter side-chains, check out our ornithine, DAB (2,4-diaminobutyric acid), and DAP (2,3-diaminopropionic acid) sections on our webshop. These modifications offer streamlined alternatives to lysine, useful for fine-tuning hydrophobicity, charge distribution, or steric interactions.

Product details

FAA9250 Fmoc-L-Cys(2-Boc-aminoethyl)-OH

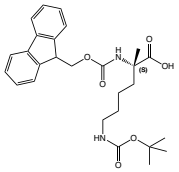
N-(((9H-fluoren-9-yl)methoxy)carbonyl)-S-(2-((*tert*-butoxycarbonyl)amino)ethyl)-L-cysteine



CAS-No.	2230472-96-2
Formula	$C_{25}H_{30}N_2O_6S$
Mol. weight	486,58 g/mol

FAA3055 Fmoc-alpha-Me-L-Lys(Boc)-OH

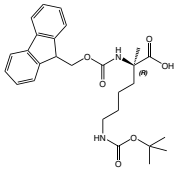
(S)-N-alpha-(9-Fluorenylmethyloxycarbonyl)-C-alpha-methyl-N-epsilon-*t*-butyloxycarbonyl-lysine



CAS-No.	1202003-49-3
Formula	$C_{27}H_{34}N_2O_6$
Mol. weight	482,57 g/mol

FAA3060 Fmoc-alpha-Me-D-Lys(Boc)-OH

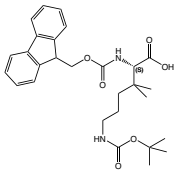
(R)-N-alpha-(9-Fluorenylmethyloxycarbonyl)-C-alpha-methyl-N-epsilon-*t*-butyloxycarbonyl-lysine



CAS-No.	1315449-94-5
Formula	$C_{27}H_{34}N_2O_6$
Mol. weight	482,57 g/mol

FAA2700 Fmoc-beta,beta-diMe-L-Lys(Boc)-OH

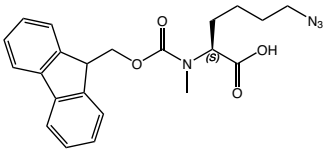
N-alpha-(9-Fluorenylmethyloxycarbonyl)-beta,beta-dimethyl-N-epsilon-*t*-butyloxycarbonyl-L-lysine



CAS-No.	2250436-41-8
Formula	$C_{28}H_{36}N_2O_6$
Mol. weight	496,60 g/mol

FAA8595 Fmoc-L-MeLys(N_3)-OH

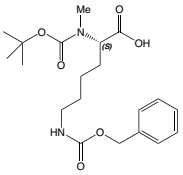
N-alpha-(9-Fluorenylmethyloxycarbonyl)-N-alpha-methyl-epsilon-azido-L-lysine



CAS-No.	1263721-14-7
Formula	$C_{22}H_{24}N_4O_4$
Mol. weight	408,46 g/mol

BAA1253 Boc-L-MeLys(Z)-OH*DCHA

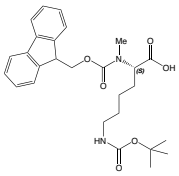
N-alpha-*t*-Butyloxycarbonyl-N-alpha-methyl-N-epsilon-benzyloxycarbonyl-L-lysine dicyclohexylamine



CAS-No.	201002-18-8
Formula	$C_{20}H_{30}N_2O_6$*$C_{12}H_{23}N$
Mol. weight	394,50*181,32 g/mol

FAA1400 Fmoc-L-MeLys(Boc)-OH

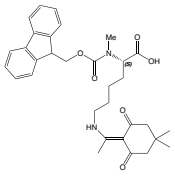
N-alpha-(9-Fluorenylmethyloxycarbonyl)-N-alpha-methyl-N-epsilon-*t*-butyloxycarbonyl-L-lysine



CAS-No.	197632-76-1
Formula	$C_{27}H_{34}N_2O_6$
Mol. weight	482,58 g/mol

FAA1401 Fmoc-L-MeLys(Dde)-OH

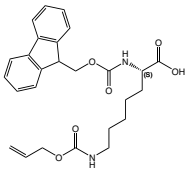
N-alpha-(9-Fluorenylmethyloxycarbonyl)-N-alpha-methyl-N-epsilon-(4,4-dimethyl-2,6-dioxocyclohex-1-ylidene)ethyl-L-lysine



CAS-No.	1428229-84-8
Formula	$C_{32}H_{38}N_2O_6$
Mol. weight	546,67 g/mol

FAA6930 Fmoc-L-HLys(Alloc)-OH

N-alpha-(9-Fluorenylmethyloxycarbonyl)-N-zeta-allyloxycarbonyl-homo-L-lysine



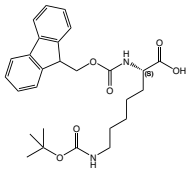
CAS-No.	281655-70-7
Formula	$C_{26}H_{30}N_2O_6$
Mol. weight	466,53 g/mol

Product details

FAA1440 Fmoc-L-HLys(Boc)-OH

N-alpha-(9-Fluorenylmethyloxycarbonyl)-N-zeta-*t*-butyloxycarbonyl-homo-L-lysine

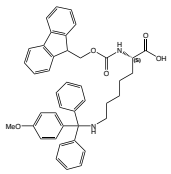
CAS-No.	194718-17-7
Formula	$C_{27}H_{34}N_2O_6$
Mol. weight	482,58 g/mol



FAA7070 Fmoc-L-HLys(Mmt)-OH

N-alpha-(9-Fluorenylmethyloxycarbonyl)-N-zeta-(4-methoxytrityl)-homo-L-lysine

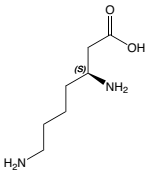
CAS-No.	2389078-61-7
Formula	$C_{42}H_{42}N_2O_5$
Mol. weight	654,79 g/mol



HAA8530 H-L-beta-HLys-OH*2HCl

L-beta-Homolysine

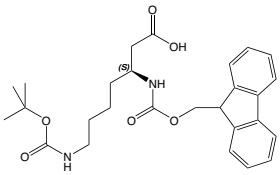
CAS-No.	290835-83-5
Formula	$C_7H_{16}N_2O_2$*2HCl
Mol. weight	160,22*72,92 g/mol



FAA6700 Fmoc-L-beta-HLys(Boc)-OH

N-beta-(9-Fluorenylmethyloxycarbonyl)-zeta-*t*-butyloxycarbonyl-L-homolysine

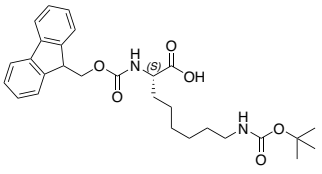
CAS-No.	203854-47-1
Formula	$C_{27}H_{34}N_2O_6$
Mol. weight	482,57 g/mol



FAA9430 Fmoc-L-H2Lys(Boc)-OH

(S)-2-((((9H-fluoren-9-yl)methoxy)carbonyl)amino)-8-((*tert*-butoxycarbonyl)amino)octanoic acid

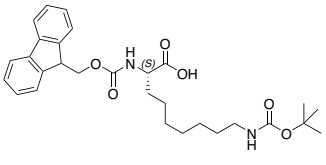
CAS-No.	313052-21-0
Formula	$C_{28}H_{36}N_2O_6$
Mol. weight	496,60 g/mol



FAA9435 Fmoc-L-H3Lys(Boc)-OH

(S)-2-((((9H-fluoren-9-yl)methoxy)carbonyl)amino)-9-((*tert*-butoxycarbonyl)amino)nonanoic acid

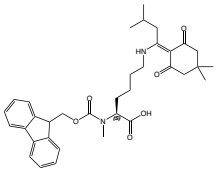
Formula	$C_{29}H_{38}N_2O_6$
Mol. weight	510,63 g/mol



FAA7935 Fmoc-L-MeLys(ivDde)-OH

N2-(((9H-fluoren-9-yl)methoxy)carbonyl)-N6-(1-(4,4-dimethyl-2,6-dioxocyclohexylidene)-3-methylbutyl)-N2-methyl-L-lysine

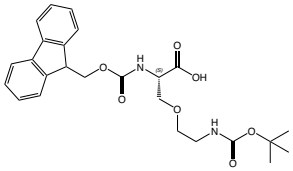
CAS-No.	1173996-67-2
Formula	$C_{35}H_{44}N_2O_6$
Mol. weight	588,75 g/mol



FAA9505 Fmoc-L-Oxolys(Boc)-OH

N-(((9H-fluoren-9-yl)methoxy)carbonyl)-O-(2-((*tert*-butoxycarbonyl)amino)ethyl)-L-serine

CAS-No.	1932178-15-8
Formula	$C_{25}H_{30}N_2O_7$
Mol. weight	470,52 g/mol



References:

N-terminal and Side-Chain Protecting Groups

- *Amino Acid-Protecting Groups; A. Isidro-Llobet; M. Álvarez; F. Albericio;* ***Chem Rev.*** *2009;* ***109(6)****: 2455–2504. https://doi.org/10.1021/cr800323s*
- *α-Azido Acids in Solid-Phase Peptide Synthesis: Compatibility with Fmoc Chemistry and an Alternative Approach to the Solid Phase Synthesis of Daptomycin Analogs; C. R. Lohani, B. Rasera, B. Scott, M. Palmer, S. D. Taylor;* ***J. Org. Chem.*** *2016;* ***81(6)****: 2624-2628. https://doi.org/10.1021/acs.joc.5b02882*
- *Greene's Protective Groups in Organic Synthesis; P. G. M. Wuts, T. W. Greene; John Wiley & Sons 2006. ISBN: 9780471697541. https://doi.org/10.1002/0470053488*
- *Sustainable Peptide Synthesis Enabled by a Transient Protecting Group; S. Knauer, N. Koch, C. Uth, R. Meusinger, O. Avrutina, H. Kolmar;* ***Angew. Chem. Int. Ed.*** *2020;* ***59(31)****: 12984-12990. https://doi.org/10.1002/anie.202003676*
- *A novel lysine-protecting procedure for continuous flow solid phase synthesis of branched peptides; B. W. Bycroft, W. C. Chan, S. R. Chhabra, N. D. Hone;* ***J. Chem. Soc., Chem. Commun.*** *1993;* ***9****: 778-779. https://doi.org/10.1039/c39930000778*
- *An appraisal of new variants of Dde amine protecting group for solid phase peptide synthesis; S. R. Chhabra, B. Hothi, D. J. Evans, P. D. White, B. W. Bycroft, W. C. Chan;* ***Tetrahedron Letters*** *1998;* ***39****: 1603-1606. https://doi.org/10.1016/s0040-4039(97)10828-0*
- *Scope and Limitations of Barbituric and Thiobarbituric Amino Acid Derivatives as Protecting Groups for Solid-Phase Peptide Synthesis: Towards a Green Protecting Group; S. Ramkisson, H. H. Al-Rasheed, K. A. Dahlous, B. G. De La Torre, A. El-Faham, F. Albericio;* ***ChemistrySelect*** *2021;* ***6****: 6626-6630. https://doi.org/10.1002/slct.202101539*
- *The use of N-formylamino acids in peptide synthesis; J. C. Sheehan, H. Y. Ding-Djung;* ***J. Am. Chem. Soc.*** *1958;* ***80(5)****: 1154-1158. https://doi.org/10.1021/ja01538a036*
- *Exploring molecular recognition pathways within a family of gelators with different hydrogen bonding motifs; J. G. Hardy, A. R. Hirst, I. Ashworth, C. Brennan, D. K. Smith;* ***Tetrahederon*** *2007;* ***63(31)****: 7397-7406. https://doi.org/10.1016/j.tet.2007.03.120*

C-terminal Protection/Activation

- *Solid-phase synthesis of peptide-4-nitroanilides; A. Kaspari, A. Schierhorn and M. Schutkowski;* ***Int J Pept Protein Res*** *1996;* ***48****: 486-94. https://doi.org/10.1111/j.1399-3011.1996.tb00867.x*
- *Rigid active esters in peptide synthesis; N. Bodanszky, M. L. Fink, K. W. Funk, M. Kondo, C. Y. Lin, A. Bodanszky;* ***J. Am. Chem. Soc.*** *1974;* ***96(7)****: 2234-2240. https://doi.org/10.1021/ja00814a039*
- *The Use of Esters of N-Hydroxysuccinimide in Peptide Synthesis; G. W. Anderson, Joan E. Zimmerman, F. C. Callahan;* ***J. Am. Chem. Soc.*** *1964;* ***86(9)****: 1839-1842. https://doi.org/10.1021/ja01063a037*
- *Synthesis of fluorescent probes directed to the active site gorge of acetylcholinesterase; J. R. Saltmarsh, A. E. Boyd, O. P. Rodriguez, Z. Radic, P. Taylor, C. M. Thompson;* ***Bioorg. Med. Chem. Lett.*** *2000;* ***10(14)****: 1523-1526. https://doi.org/10.1016/S0960-894X(00)00275-4*
- *Preparation and Properties of 2,4-Dinitrophenyl-L-amino Acids; K. R. Rao, H. A. Sober;* ***J. Am. Chem. Soc.*** *1954;* ***76(5)****: 1328-1331. https://doi.org/10.1021/ja01634a041*
- *Highly Site Specific, Protease Cleavable, Hydrophobic Peptide–Polymer Nanoparticles; M. Maier, N. Kotman, C. Friedrichs. J. Andrieu, M. Wagner, R. Graf, W. S. L. Strauss, V. Mailänder, Cl. K. Weiss, K. Landfester;* ***Marcomolecules*** *2011;* ***44(16)****: 6258-6267. https://doi.org/10.1021/ma201149b*
- *Genetic Encoding of N6-(((Trimethylsilyl)methoxy)carbonyl)-L-lysine for NMR Studies of Protein-Protein and Protein Ligand Interactions; E. H. Abdelkader, H. Qianzhu, Y. J. Tan, L. A. Adams, T. Huber, G. Otting;* ***J. Am. Chem. Soc.*** *2021;* ***143(2)****: 1133-1143. https://doi.org/10.1021/jacs.0c11971.*
- *The β-(Trimethylsilyl)ethoxycarbonyl amino-protecting group; L. A. Carpino, J.-H. Tsao, H. Ringsdorf, E. Fell, G. Hettrich;* ***Chem. Soc., Chem. Comm.*** *1978;* ***8****: 358-359. https://doi.org/10.1039/C39780000358*
- *Nitrodibenzofuran: A One- and Two-Photon Sensitive Protecting Group That Is Superior to Brominated Hydroxycoumarin for Thiol Caging in Peptides; M. Mohsen Mahmoodi, D. Abate-Pella, T. J. Pundsack, C. C. Palsuledesai, P. C. Goff, D. A. Blank, and M. D. Distefano;* ***J. Am. Chem. Soc.*** *2016;* ***138****: 5848-5859. https://doi.org/10.1021/jacs.5b11759*
- *Isonicotinyloxycarbonyl a novel amino protecting group for peptide synthesis; D. F. Veber, W. J. Paleveda, Y. C. Lee, R. Hirschmann;* ***J. Org. Chem.*** *1977;* ***42(20)****: 3286-3288. https://doi.org/10.1021/jo00440a018.*
- *Semipermanent p-nitrobenzyloxycarbonyl (pNZ) protection of Orn and Lys side-chains: prevention of undesired alpha-Fmoc removal and application to the synthesis of cyclic peptides; S. Isidro-Llobet, M. Álvarez, F. Albericio;* ***Tetrahedron Lett.*** *2005;* ***46(45)****: 7733-7736. https://doi.org/10.1016/j.tetlet.2005.09.043*
- *Solid-Phase Peptide Synthesis Using a Four-Dimensional (Safety-Catch) Protecting Group Scheme; S. Noki, E. Brasil, H. Zhang, T. Bruckdorfer, B. de la Torre, F. Albericio;* ***J. Org. Chem.*** *2022,* ***87(15):*** *9443-9453. https://doi.org/10.1021/acs.joc.2c01056*
- *Comparative study of the cathodic cleavage of N-tosyl- and N-nosyl-protected amino acids; M. V. B. Zanoni, C. H. M. Sartorello, N. R. Stradiotto;* ***J. Electroanal. Chem.*** *1993;* ***361(1-2)****: 103-108. https://doi.org/10.1016/0022-0728(93)87043-U*
- *Posttranslational Modifications*
- *Effects of Lysine Acetylation in a b-Hairpin Peptide: Comparison of an Amide-ð and a Cation-ð Interaction; R. M. Hughes, L. M. Waters;* ***J. Am. Chem. Soc.*** *2006;* ***128(41)****: 13586-13591. https://doi.org/10.1021/ja0648460*
- *Synthesis and Evaluation of a Stable Isostere of Malonyllysine; Y. Jing, S. E. Bergholtz, A. Omole, R. A. Kulkarni, T. T. Zengeya, E. Yoo, J. L. Meier;* ***ChemBioChem.*** *2022;* ***23****: e202100491. https://doi.org/10.1002/cbic.202100491*
- *Streptomyces albus: A New Cell Factory for Non-Canonical Amino Acids Incorporation into Ribosomally Synthesized Natural Products; M. Lopatniuk, M. M. Myronovskyi, A. Luzhetskyy;* ***ACS Chem. Biol.*** *2017;* ***12(9)****: 2362-2370. https://doi.org/10.1021/acschembio.7b00359.*
- *Pyrrolysine is not hardwired for cotranslational insertion at UAG codons; A. Ambrogelly, S. Gundllapalli, S. Herring, C. Polycarpo, C. Frauer, D. Söll;* ***PNAS*** *2007;* ***104(9)****: 3141-3146. https://doi.org/10.1073/pnas.0611634104.*
- *Synthesis of diastereomerically pure Lys(N-lipoyl) building blocks and their use in Fmoc/tBu solid phase synthesis of lipoyl-containing peptides for diagnosis of primary biliary cirrhosis; C. Rentier, G. Pacini, F. Nuti, E. Peroni, P. Rovero, A. M. Papini;* ***J. Pept. Sci.*** *2015;* ***21****: 408–414. https://doi.org/10.1002/psc.2761*
- *The Chemical Biology of Reversible Lysine Post-translational Modifications; Z. A. Wang, P. A. Cole;* ***Cell Chem. Biol.*** *2020;* ***27(8)****: 953-969. https://doi.org/10.1016/j.chembiol.2020.07.002*
- *The diverse functions of histone lysine methylation; C. Martin, Y. Zhang;* ***Nat Rev Mol Cell Biol*** *2005;* ***6****: 838-849. https://doi.org/10.1038/nrm1761*
- *N-formylation of lysine in histone proteins as a secondary modification arising from oxidative DNA damage; T. Jiang, X. Zhou, K. Taghizadeh, P. C. Dedon;* ***PNAS*** *2006;* ***104(1)****: 60-65. https://doi.org/10.1073/pnas.0606775103*
- *Lysine benzoylation is a histone mark regulated by SIRT2; H. Huang, D. Zhang, Y. Wang, M. Perez-Neut, Z. Han, Y. G. Zheng, Q. Hao, Y. Zhao;* ***Nat. Commun.*** *2018;* ***9****: 3374. https://doi.org/10.1038/s41467-018-05567-w*

Cyclization and Crosslinking

- *Biocompatible and Selective Generation of Bicyclic Peptides; S. Ullrich, J. George, A. Coram, R. Morewood, C. Nitsche;* ***Angew Chem Int Ed*** *2022;* ***61****: e202208400.* https://doi.org/10.1002/anie.202208400
- *Recent advances in N- and C-terminus cysteine protein bioconjugation; R. Spears, V. Chudasama;* ***Curr Opin Chem Biol*** *2023;* ***75****: 102306.* https://doi.org/10.1016/j.cbpa.2023.102306
- *Platform for Orthogonal N-Cysteine-Specific Protein Modification Enabled by Cyclopropenone Reagents; A. Istrate, M. Geeson, C. Navo, B. Sousa, M. Marques, R. Taylor, T. Journeaux, S. Oehler, M. Mortensen, M. Deery, A. Bond, F. Corzana, G. Jiménez-Osés, G. Bernardes;* ***J. Am. Chem. Soc.*** *2022;* ***144****: 10396-10406.* https://doi.org/10.1021/jacs.2c02185
- *1-Ethoxyethylidene, a New Group for the Stepwise SPPS of Aminooxyacetic Acid Containing Peptides; S. Foillard, M. O. Rasmussen, J. Razkin, D. Boturyn, P. Dumy;* ***J. Org. Chem.*** *2008;* ***73(3)****: 983-991.* https://doi.org/10.1021/jo701628k
- *Synthesis of allysine ethylene acetal using phenylalanine dehydrogenase from Thermoactinomyces intermedius; R .L. Hanson, J. M. Howell, T. L. LaPorte, M. J. Donovan, D. L. Cazzulino, V. Zannella, M. A. Montana, V. B. Nanduri, S. R. Schwarz, R. F. Eiring, S. C. Durand, J. M. Wasylyk, W. L. Parker, M. S. Liu, F. J. Okuniewicz, B.-C. Chen, J. C. Harris, K. J. Natalie Jr, K. Ramig, S. Swaminathan, V. W. Rosso, S. K. Pack, B. T. Lotz, P. J. Bernot, A. Rusowicz, D. A. Lust, K. S. Tse, J. J. Venit;* ***Enzym. Microbial Techn.*** *2000;* ***26(5-6)****: 348-358.* https://doi.org/10.1016/S0141-0229(99)00175-1
- *Probing Protein-Protein Interactions with a Genetically Encoded Photocrosslinking Amino Acid; H. Ai, W. Shen, A. Sagi, P. R. Chen, P. G. Schultz;* ***ChemBioChem*** *2011;* ***12****: 1854 – 1857.* https://doi.org/10.1002/cbic.201100194
- *Fishing for Drug Targets: A Focus on Diazirine Photoaffinity Probe Synthesis; J. R. Hill, A. A. B. Robertson;* ***J. Med. Chem.*** *2018;* ***61****: 6945−6963.* https://doi.org/10.1021/acs.jmedchem.7b01561

Fluorescent Probes

- *A general method for the preparation of internally quenched fluorogenic protease substrates using solid-phase peptide synthesis; L. L. Maggiora, C. W. Smith, Z. Y. Zhang;* ***J. Med. Chem.*** *1992;* ***35(21)****: 3727-30.* https://doi.org/10.1021/jm00099a001
- *Quantitative screening of EGF receptor-binding peptides by using a peptide library with multiple fluorescent amino acids as fluorescent tags; M. Kitamatsu, T. Yamamoto, M. Futami, M. Sisido;* ***Bioorg. Med. Chem. Lett.*** *2010;* ***20****: 5976-8.* https://doi.org/10.1016/j.bmcl.2010.08.078
- *Kinetic analysis of matrix metalloproteinase activity using fluorogenic triple-helical substrates; J. L. Lauer-Fields, T. Broder, T. Sritharan, L. Chung, H. Nagase, G. B. Fields;* ***Biochemistry*** *2001;* ***40(19)****: 5795-803.* https://doi.org/10.1021/bi0101190
- *A rapid fluorometric assay for N-terminal glutaminyl cyclase activity using high-performance liquid chromatography; A. P. Consalvo, S. D. Young, B. N. Jones, P. P. Tamburini;* ***Anal. Biochem.*** *1988;* ***175(1)****: 131-138.* https://doi.org/10.1016/0003-2697(88)90370-3
- *Cellular routines in the synthesis of cyclic peptide probes; J. J. La Clar;* ***Tetrahedron*** *2006;* ***62(22)****: 5347-5354.* https://doi.org/10.1016/j.tet.2006.01.113
- *A novel method for screening peptides that bind to proteins by using multiple fluorescent amino acids as fluorescent tags; M. Kitamatsu, M. Futami, M. Sisido;* ***Chem. Commun.*** *2010;* ***46****: 761-763.* https://doi.org/10.1039/B920426A

Biotinylation

- *Morphology and axonal projection pattern of neurons in the telencephalon of the fire-bellied toad Bombina orientalis: an anterograde, retrograde, and intracellular biocytin labeling study; G. Roth, S. Muhlenbrock-Lenter, W. Grunwald, F. Laberge;* ***J Comp Neurol*** *2004;* ***478(1)****: 35-61.* https://doi.org/10.1002/cne.20265
- *The biocytin wide-field bipolar cell in the rabbit retina selectively contacts blue cones; M. A. MacNeil, P. A. Gaul;* ***J Comp Neurol*** *2010;* ***506(1)****: 6-15.* https://doi.org/10.1002/cne.21491
- *Discovery of a 29-Amino-Acid Reactive Abiotic Peptide for Selective Cysteine Arylation; E. D. Evans, B. L. Pentelute;* ***ACS Chem. Biol.*** *2018;* ***13(3)****: 527-532.* https://doi.org/10.1021/acschembio.7b00520
- *Directed Assembly of PEGylated-Peptide Coatings for Infection-Resistant Titanium Metal; X. Khoo, P. Hamilton, G. A. O'Toole, B. D. Snyder, D. J. Kenan, M. W. Grinstaff;* ***J. Am. Chem. Soc.*** *2009;* ***131(31)****: 10992-10997.* https://doi.org/10.1021/ja9020827
- *Development of α-helical calpain probes by mimicking a natural protein-protein interaction; H. Jo, N. Meinhardt, Y. Wu, S. Kulkarni, X. Hu, K. E. Low, P. L. Davies, W. F. DeGrado, D. C. Greenbaum;* ***J. Am. Chem. Soc.*** *2012;* ***134(42)****: 17704-13.* https://doi.org/10.1021/ja307599z

Aliphatic Side-chains

- *Genetically Encoding a Lipidated Amino Acid for Extension of Protein Half-Life in vivo; C. Fu, Q. Chen, F. Zheng, L. Yang, H. Li, Q. Zhao, X. Wang, L. Wang, Q. Wang;* ***Angew. Int. Ed.*** *2019;* ***58(5)****: 1392-1396. https://doi.org/10.1002/anie.201811837*
- *Cyclic peptide-based potent human SIRT6 inhibitors; J. Liu, W. Zheng;* ***Org. Biomol. Chem.*** *2016;* ***14****: 5928-5935. https://doi.org/10.1039/C5OB02339D*
- *Design, Synthesis, and Characterization of High-Affinity, Systemically-Active Galanin Analogues with Potent Anticonvulsant Activities; G. Bulaj, B. R. Green, H.-K. Lee, C. R. Robertson, K. White, L. Zhang, M. Sochanska, S. P. Flynn, E. A. Scholl, T. H. Pruess, M. D. Smith, H. S. White;* ***J. Med. Chem.*** *2008;* ***51(24)****: 8038-8047. https://doi.org/10.1021/jm801088x*
- *Cationic surfactants from lysine: Synthesis, micellization and biological evaluation; L. Perez, A. Pinazo, M. Teresa Garcia, M. Lozano, A. Manresa, M. Angelet, M. Pilar Vinardell, M. Mitjans, R. Pons, M. Rosa Infante;* ***J. Med. Chem.*** *2009;* ***44(5)****: 1884-1892. https://doi.org/10.1016/j.ejmech.2008.11.003.*
- *Structural Requirements for a Lipoamino Acid in Modulating the Anticonvulsant Activities of Systemically Active Galanin Analogues; L. Zhang, C. R. Robertson, B. R. Green, T. H. Pruess, H. S. White, G. Bulaj;* ***J. Med. Chem.*** *2009;* ***52(5)****: 1310-1316. https://doi.org/10.1021/jm801397w*
- *Improving the Cell Permeability of Polar Cyclic Peptides by Replacing Residues with Alkylated Amino Acids, Asparagines, and d-Amino Acids; L. K. Buckton, S. R. McAlpine;* ***Org. Lett.*** *2018;* ***20(3)****: 506-509. https://doi.org/10.1021/acs.orglett.7b03363*
- *Selective Targeting of Integrin αvβ8 by a Highly Active Cyclic Peptide; F. Reichart, O. Maltsev, T. G. Kapp, A. F. B. Räder, M. Weinmüller, U. K. Marelli, J. Notni, A. Wurzer, R. Beck, H.-J. Wester, K. Steiger, S. Di Marco, F. S. Di Leva, L. Marinelli, M. Nieberler, U. Reuning, M. Schwaiger, H. Kessler;* ***J. Med. Chem.*** *2019;* ***62(4)****: 2024-2037. https://doi.org/10.1021/acs.jmedchem.8b01588*

Semaglutide Building Blocks

- *Synthesis of Lipidated Peptides; F. Rosi, G. Triola;* ***Peptide Synthesis and Applications*** *2013; 161-189. https://doi.org/10.1007/978-1-62703-544-6_12*
- *Synthetic lipidation of peptides and amino acids: monolayer structure and properties; P. Berndt, G. B. Fields, M. Tirrell;* ***J. Am. Chem. Soc.*** *1995;* ***117(37)****: 9515-9522. https://doi.org/10.1021/ja00142a019*
- *Derivatization with fatty acids in peptide and protein drug discovery; P. Kurtzhals, S. Østergaard, E. Nishimura, T. Kjeldsen;* ***Nat. Rev.*** *2023;* ***22****: 59-80. https://doi.org/10.1038/s41573-022-00529-w*
- *Toward Angiogenesis Inhibitors Based on the Conjugation of Organometallic Platinum(II) Complexes to RGD Peptides; A. Zamora, A. Gandioso, A. Massaguer, S. Buenestado, C. Calvis, J. L. Hernández, F. Mitjans, V. Rodríguez;* ***ChemMedChem*** *2018;* ***13(17)****: 1755-1762. https://doi.org/10.1002/cmdc.201800282*
- *Copper(II) lysinate and pseudoproline assistance in the convergent synthesis of the GLP-1 receptor agonists Liraglutide and Semaglutide; I. Guryanov, A. Orlandin, I. De Paola, A. Viola, B. Biondi, D. Badocco, F. Formaggio, A. Ricci, W. Cabri;* ***Org. Process Res. Dev.*** *2021;* ***25(7)****: 1598-1611. https://doi.org/10.1021/acs.oprd.1c00021*
- *Innovative chemical synthesis and conformational hints on the lipopeptide liraglutide; I. Guryanov, A. Bondesan, D. Visentini, A. Orlandin, B. Biondi, C. Toniolo, F. Formaggio, A. Ricci, J. Zanon, W. Cabri;* ***J. Pept. Sci.*** *2016;* ***22(7)****: 471-479. https://doi.org/10.1002/psc.2890*

Clickable Lysines

- → *Synthesis and Conformational Analysis of a Cyclic Peptide Obtained via i to i+4 Intramolecular Side-Chain to Side-Chain Azide-Alkyne 1,3-Dipolar Cycloaddition; S. Cantel, A. Isaad, M. Scrima, J. J. Levy, R. D. DiMarchi, P. Rovero, J. A. Halperin, A. M. D'Ursi, A. M. Papini, M. Chroev;* ***J. Org. Chem.*** *2008;* ***73(15)****: 5663-5674. https://doi.org/10.1021/jo800142s*
- → *Discovery of Escherichia coli methionyl-tRNA synthetase mutants for efficient labeling of proteins with azidonorleucine in vivo; I. C. Tanrikulu, E. Schmitt, Y. Mechulam, W. A. Goddard III, D. A. Tirrell;* ***PNAS*** *2009;* ***106(36)****: 15285-15290. https://doi.org/10.1073/pnas.0905735106*
- → *Presentation and Detection of Azide Functionality in Bacterial Cell Surface Proteins; A. J. Link, M. K. S. Vink, D. A. Tirrell;* ***J. Am. Chem. Soc.*** *2004;* ***126(34)****: 10598-10602. https://doi.org/10.1021/ja047629c*
- → *Designer Extracellular Matrix Based on DNA-Peptide Networks Generated by Polymerase Chain Reaction; A. Finke, H. Bußkamp, M. Manea, A. Marx;* ***Angew. Chem. Int. Ed.*** *2016;* ***55(34)****: 10136-10140. https://doi.org/10.1002/anie.201604687*
- → *Development of Selective Bisubstrate-Based Inhibitors Against Protein Kinase C (PKC) Isozymes By Using Dynamic Peptide Microarrays; A. J. Poot, J. van Ameijde, M. Slijper, A. van den Berg, R. Hilhorst, R. Ruijtenbeek, D. T. S. Rijkers, R. M. J. Liskamp;* ***ChemBioChem*** *2009;* ***10(12)****: 2042-2051. https://doi.org/10.1002/cbic.200900199*
- → *Live-cell epigenome manipulation by synthetic histone acetylation catalyst system; Y. Fujiwara, Y. Yamanashi, A. Fujimura, Y. Sato, T. Kujirai, H. Kurumizaka, H. Kimura, K. Yamatsugu, S. A. Kawashima, M. Kanai;* ***PNAS*** *2021;* ***118(4)****: e2019554118. https://doi.org/10.1073/pnas.2019554118*
- → *Optimization of the posttranslational click modification of proteins; M. Vrabel, E. Kaya, S. Prill, V. Ehmke, T. Carell;* ***Collect. Czech. Chem. Commun.*** *2011;* ***76****: 1089-1101. https://doi.org/10.1135/cccc2011103*
- → *One-pot approach to well-defined biomolecular assemblies by orthogonal chemoselective ligations; M. Galibert, P. Dumy and D. Boturyn;* ***Angew. Chem. Int. Ed.*** *2009;* ***48****: 2576-9. https://doi.org/10.1002/anie.200806223*
- → *Genetic Encoding and Labeling of Aliphatic Azides and Alkynes in Recombinant Proteins via a Pyrrolysyl-tRNA Synthetase/tRNACUA Pair and Click Chemistry; D. P. Nguyen, H. Lusic, H. Neumann, P. B. Kapadnis, A. Deiters, J. W. Chin;* ***J. Am. Chem. Soc.*** *2009;* ***131(25)****: 8720–8721. https://doi.org/10.1021/ja900553w*
- → *Bioorthogonal Chemical Reporters for Monitoring Protein Acetylation; Y.-Y. Yang, J. M. Ascano, H. C. Hang;* ***J. Am. Chem. Soc.*** *2010;* ***132(11)****: 3640–3641. https://doi.org/10.1021/ja908871t*
- → *Chemoenzymatic Conjugation of Toxic Payloads to the Globally Conserved N-Glycan of Native mAbs Provides Homogeneous and Highly Efficacious Antibody-Drug Conjugates; R. van Geel, M. A. Wijdeven, R. Heesbeen, J. M. M. Verkade, A. A. Wasiel, S. S. van Berkel, F. L. van Delft;* ***Bioconjugate Chem.*** *2015;* ***26(11)****: 2233-2242. https://doi.org/10.1021/acs.bioconjchem.5b00224*
- → *Synthesis of hydrophobic insulin-based peptides using a helping hand strategy; M. M. Disotuar, M. E. Petersen, J. M. Nogueira, M. S. Kay and D. H. Chou;* ***Org Biomol Chem*** *2019;* ***17****: 1703-1708. https://doi.org/10.1039/c8ob01212a*
- → *Phosphine-Activated Lysine Analogues for Fast Chemical Control of Protein Subcellular Localization and Protein SUMOylation; J. S. Wesalo, J. Luo, K. Morihiro, J. Liu, A. Deiters;* ***ChemBioChem.*** *2020;* ***21(1-2)****: 141-148. https://doi.org/10.1002/cbic.201900464*
- → *Multistep Engineering of Pyrrolysyl-tRNA Synthetase to Genetically Encode N-epsilon-(o-Azidobenzyloxycarbonyl) lysine for Site-Specific Protein Modification; T. Yanagisawa, R. Ishii, R. Fukunaga, T. Kobayashi, K. Sakamoto, S. Yokoyama;* ***Chem. Biol.*** *2008;* ***15****: 1187–1197. https://doi.org/10.1016/j.chembiol.2008.10.004*
- → *Incorporation of a Doubly Functionalized Synthetic Amino Acid into Proteins for Creating Chemical and Light-Induced Conjugates; A. Yamaguchi, T. Matsuda, K. Ohtake, T. Yanagisawa, S. Yokoyama, Y. Fujiwara, T. Watanabe, T. Hohsaka, K. Sakamoto;* ***Bioconjugate Chem.*** *2016;* ***27(1)****: 198–206. https://doi.org/10.1021/acs.bioconjchem.5b00602*
- → *A genetically encoded multifunctional unnatural amino acid for versatile protein manipulations in living cells; Y. Ge, X. Fan, P. R. Chen;* ***Chem. Sci.*** *2016;* ***7****: 7055-7060. https://doi.org/10.1039/C6SC02615J*
- → *Direct charging of tRNACUA with pyrrolysine in vitro and in vivo; S. K. Blight, R. C. Larue, A. Mahapatra, D. G. Longstaff, E. Chang, G. Zhao, P. T. Kang, K. B. Green-Church, M. K. Chan, J. A. Krzycki;* ***Nature*** *2004;* ***431****: 333. https://doi.org/10.1038/nature02895*
- → *Highly accelerated inverse electron-demand cycloaddition of electron-deficient azides with aliphatic cyclooctynes; J. Dommerholt, O. van Rooijen, A. Borrmann, C. F. Guerra, F. M. Bickelhaupt, F. L. van Delft;* ***Nat Commun*** *2014;* ***5****: 5378. https://doi.org/10.1038/ncomms6378*
- → *A genetically encoded norbornene amino acid for the mild and selective modification of proteins in a copper-free click reaction; E. Kaya, M. Vrabel, C. Deiml, S. Prill, V. S. Fluxa, T. Carell;* ***Angew. Chem. Int. Ed.*** *2012;* ***51(18)****: 4466-4469. https://doi.org/10.1002/anie.201109252*

Main-Chain Modifications

- → *Effect of lysine side-chain length on histone lysine acetyltransferase catalysis; G. Proietti, Y. Wang, G. Rainone, J. Mecinovic;* ***Sci. Rep.*** *2020;* ***10****: 13046. https://doi.org/10.1038/s41598-020-69510-0*
- → *Fine-tuning of lysine side-chain modulates the activity of histone lysine methyltransferases; A. H. K. Al Temimi, J. Merx, C. J. van Noortwijk, G. Proietti, R. Buijs, P. B. White, F. P. J. T Rutjes, T. J. Boltje, J. Mecinovic;* ***Sci Rep*** *2020;* ***10****: 21574. https://doi.org/10.1038/s41598-020-78331-0*
- → *Complete synthesis of the bicyclic ring of a mutacin analog with orthogonally protected lanthionine via solid-phase intracyclization; K. Kirichenko, J. D. Hillman, M. Handfield; J. H. Park;* ***J. Pep. Sci.*** *2019;* ***25(11)****: e3214. https://doi.org/10.1002/psc.3214*
- → *Synthesis of beta,beta-Dimethylated Amino Acid Building Blocks Utilizing the 9-Phenylfluorenyl Protecting Group; N. Kawahata, M.Weisberg, M. Goodman;* ***J. Org. Chem.*** *1999;* ***64(12)****: 4362-4369. https://doi.org/10.1021/jo982474a*
- → *Solid-phase combinatorial synthesis and biological evaluation of destruxin E analogs; M. Yoshida, Y. Ishida, K. Adachi, H. Murase, H. Nakagawa, T. Doi;* ***Chem. Eur. J.*** *2015;* ***21(50)****: 18417-18430. https://doi.org/10.1002/chem.201502970.*
- → *β-Homolysine Oligomers: A New Class of Trojan Carriers; C. Garcá-Echeverría, S. Ruetz;* ***BMCL*** *2003;* ***13(2)****: 247-251. https://doi.org/10.1016/S0960-894X(02)00885-5*
- → *N-Methylation of Peptides: A New Perspective in Medicinal Chemistry; J. Chatterjee, C. Gilon, A. Hoffman, H. Kessler;* ***Acc. Chem. Res.*** *2008;* ***41(10)****: 1331-1342. https://doi.org/10.1021/ar8000603*
- → *Structures of peptides from α-amino acids methylated at the α-carbon; C. Toniolo, M. Crisma, F. Formaggio, C. Valle, G. Gaviccioni, G. Precigoux, A. Aubry, J. Kamphuis;* ***Biopolymers*** *1993;* ***33(7)****: 1061-1072. https://doi.org/10.1002/bip.360330708*

Notes

Empowering Peptide Innovation