



Product Catalog

Pursuing excellence in quality
through technological innovation

Changsha Morning Shine Co., Ltd.

PRODUCT CATALOG

About Us

- 01  Company Introduction
 - 03  Cooperation Partners
-

Quality Management System

- 04  Quality Management System
-

Peptide Drug Intermediates

- 07  Common Fragments
 - 08  Semaglutide Intermediates
 - 12  Tirzepatide Intermediates
 - 14  Retatrutide Intermediates
 - 17  Amycretin Intermediates
 - 19  Liraglutide Intermediates
 - 20  Insulin Icodec Intermediates
 - 21  Insulin Degludec Intermediates
 - 21  Somapacitan Intermediates
 - 22  Teduglutide Intermediates
 - 22  Pseudo-proline
 - 25  Special Protected Amino Acids
 - 26  MK0616 Key Amino Acids
 - 27  Others
-

SNAC

- 31  SNAC

TFA-Free Cosmetic Peptides

32  TFA-Free Cosmetic Peptides

Monodisperse PEG Derivatives

34  Monodisperse PEG Derivatives
37  PEG Functionalized Building Blocks and Custom Synthesis Services

XDC Linker

38  XDC Linker

Oligonucleotide Intermediates

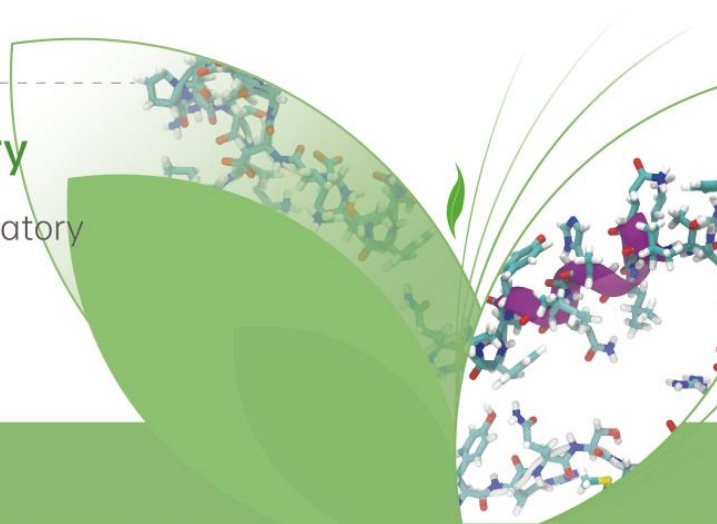
40  GalNAc Derivatives
42  Linkers for Solid Phase Synthesis

Instruments

43  Instruments

Explore Our Laboratory

44  Explore Our Laboratory



ABOUT US



200+
R&D personnel



\$30million
Instruments and Equipment



33,000m²
GMP factory



R&D Center

Company Introduction >>>

Founded in 2019, Morning Shine is a technology-driven company focused on the R&D, large-scale manufacturing, and CRO services of high-purity pharmaceutical intermediates, APIs, and excipients. Guided by our mission- "Technology Shapes Quality"- we continue to drive innovation in pharmaceutical quality and manufacturing.

R&D and Manufacturing

Our R&D team includes over 200 highly skilled professionals with master's and doctoral degrees in chemical synthesis, separation & purification, quality research and biotechnology. With an investment exceeding \$30 million in advanced analytical instruments and equipment - including: 600 MHz and 400 MHz NMR spectrometers, and multiple high-resolution mass spectrometers such as Orbitrap Fusion[™], Q Exactive[™], and Triple TOF[™] - we are equipped to support cutting-edge pharmaceutical innovation. With a multidisciplinary technology platform, we have built strong capabilities in complex chemical synthesis, separation and purification, and comprehensive quality research of challenging compounds.

We operate a 33,000 m² GMP factory with reactor volumes ranging from 200L to 10,000L. The facility is capable of handling a variety of challenging chemical reactions-including low/high-temperature, hydrogenation, and high-pressure processes-ensuring a seamless transition from lab-scale development to commercial production, ensuring reliable product quality and stable commercial supply.



Empowered by advanced separation and purification technologies, Morning Shine has achieved significant quality advantages in key products including GLP-1 fatty-acid side chains, short peptide fragments, monodisperse PEG derivatives, and oligonucleotide delivery key materials such as L96. Product quality consistently exceeds that of comparable products in the market, meeting the stringent quality requirements of high-end pharmaceutical applications.

Core Products and Services

- **GLP-1 Peptide Drug Intermediates**

Our key offerings include fatty acid side chains and short peptide fragments for GLP-1 drugs manufacturing. We have achieved single-batch production >400 kg with inventory >100 kg for key side chains, and single impurity level consistently below 0.10%. Backed by comprehensive quality research, our products fully support global regulatory submissions. Morning Shine is a leading supplier of fatty acid side chains for semaglutide, tirzepatide and retatrutide worldwide.

- **Monodisperse PEG Derivatives**

We offer PEG derivatives manufactured through proprietary synthesis and purification processes, ensuring ultra-low homolog impurities (e.g., <0.10% for PEG4-PEG12 and <0.15% for PEG16-PEG24). Custom end-group modifications are available to meet specific drug design needs.

- **Oligonucleotide Intermediates**

We provide high-purity building blocks for oligonucleotide therapeutics, including cap analogs, GalNAc (with purity >99% and single impurities <0.1%), and solid-phase synthesis linkers.

- **Custom Synthesis & CMO Services**

We provide custom synthesis and manufacturing services for complex pharmaceutical compounds. Our integrated platform enables seamless scale-up from laboratory development to commercial production, helping customers reduce development costs and accelerate project timelines.

Cooperation Partners >>>

Morning Shine is currently experiencing rapid growth and expansion, has, since its founding, established in-depth collaborations with over 1,000 domestic and international pharmaceutical companies, ranging from leading pharmaceutical companies to emerging biotech innovators. Leveraging strong technical capabilities and exceptional service quality, the company has built an extensive and stable global partnership network.



Each partnership reflects the trust our partners place in our capabilities and a shared commitment to innovation and excellence in pharmaceutical development. We consistently prioritize our partners' needs, offering innovative solutions, outstanding technical expertise, and full lifecycle support to ensure successful project execution. This commitment has earned us strong recognition and an excellent reputation within the pharmaceutical industry.

Looking ahead, we will continue to deepen existing collaborations and forge new partnerships, jointly advancing innovation and sustainable growth in the global pharmaceutical industry.

QUALITY MANAGEMENT SYSTEM



Perfect Quality Management System

We have established a comprehensive Quality Management System (QMS) integrating pharmaceutical R&D requirements with Good Manufacturing Practice (GMP). Our laboratory has also been accredited by the China National Accreditation Service for Conformity Assessment (CNAS) (Registration No. CNAS L16409), ensuring the compliance of all research activities and the consistency of product quality.



Information Management System

We have employed an Electronic Laboratory Notebook (ELN) integrated within the Laboratory Information Management System (LIMS), ensuring data integrity and providing clearer, more accurate, and more efficient standardized records compared to traditional paper-based documentation.

Our network-based database system enables hierarchical access control, audit trails, real-time data backup, ensuring data security and compliance.

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Audit Experience

Since 2020, Morning Shine has successfully passed more than 100 regulatory and customer audits, with consistently positive feedback from customers.



PRODUCT CATALOG



Peptide Drug Intermediates >>>

Leveraging strong synthetic expertise and advanced purification technologies, Morning Shine Pharmaceutical has established scalable manufacturing capabilities for peptide drug intermediates through LPPS, delivering both quality and cost advantages. The company has developed industry-leading expertise in the development and large-scale production of GLP-1 fatty-acid side chains and short peptides.

Annual production capacity for fatty-acid side chains exceeds 60 tons, while short peptides capacity exceeds 100 tons, supporting large-scale global supply demands. In addition, a dedicated R&D team of over 200 scientists enables rapid development of new products and customized solutions, with delivery timelines ranging from gram scale to 100 kg scale within as fast as two months.

Comprehensive impurity profiling studies have been conducted for all products, including customized intermediates. For products manufactured at commercial scale, single impurities are controlled below 0.10%, or key activity-related impurities are controlled below 0.10%, demonstrating industry-leading quality standards. Representative HPLC chromatograms of major products are shown below.

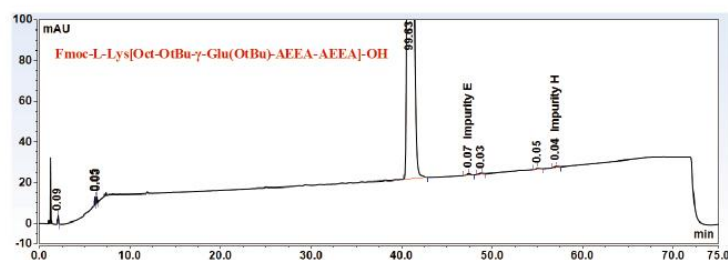


Figure 1 LK0053 Fmoc-L-Lys[Oct-OtBu-γ-Glu(OtBu)-AEEA-AEEA]-OH (CAS 1662688-20-1)-HPLC chromatogram

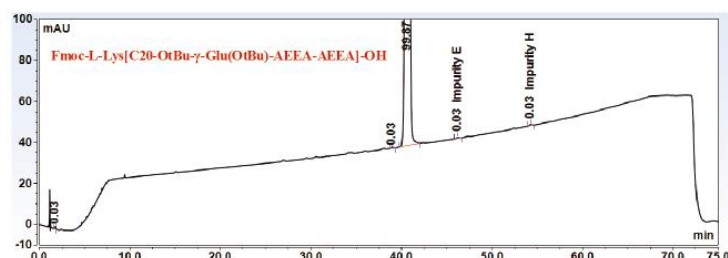


Figure 2 LK0056 Fmoc-L-Lys[C20-OtBu-γ-Glu(OtBu)-AEEA-AEEA]-OH (CAS 2915356-76-0)-HPLC chromatogram

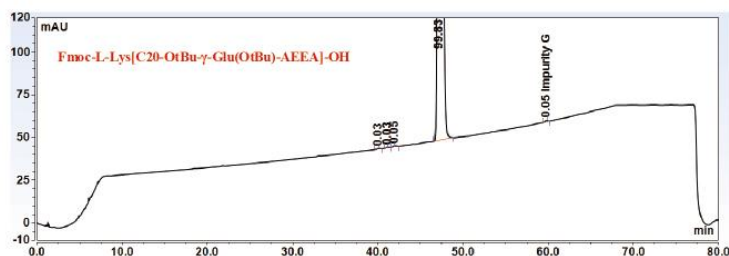


Figure 3 LK0059 Fmoc-L-Lys[C20-OtBu-γ-Glu(OtBu)-AEEA]-OH (CAS 2612237-97-3)-HPLC chromatogram

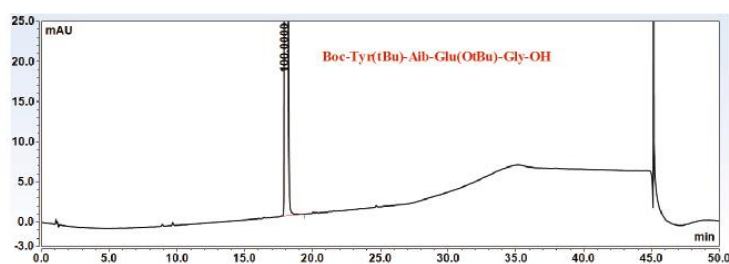


Figure 4 LK0064 Boc-Tyr(tBu)-Aib-Glu(OtBu)-Gly-OH (CAS 2682040-93-1)-HPLC chromatogram

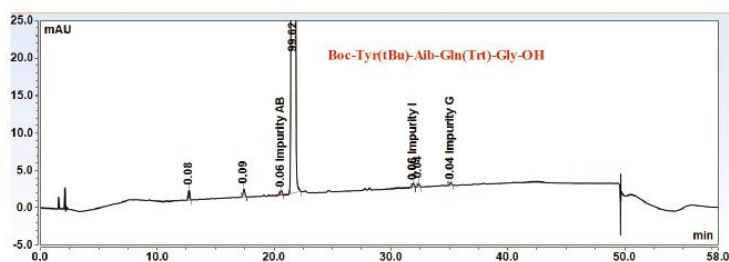


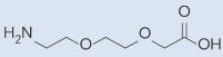
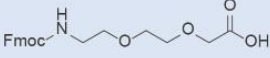
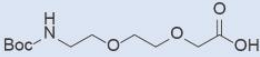
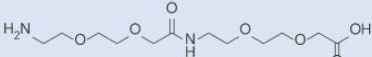
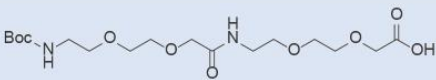
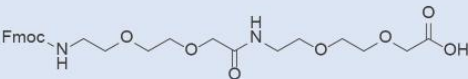
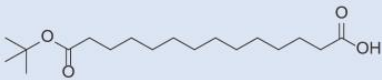
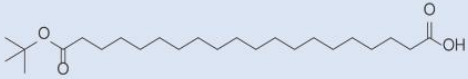
Figure 5 LK0092 Boc-Tyr(tBu)-Aib-Gln(Trt)-Gly-OH (CAS 2612237-79-1)-HPLC chromatogram

Morning Shine Pharma possesses strong CMC research capabilities and has conducted comprehensive quality studies on widely used side chains and short peptides for semaglutide, tirzepatide, and retatrutide, providing comprehensive support for customers' regulatory submissions.

Supported by strong CMC expertise and GMP manufacturing capabilities, Morning Shine Pharma can help customers mitigate regulatory risks associated with starting material re-designation and provide comprehensive support for DMF submissions, either independently or through joint filings with customers.

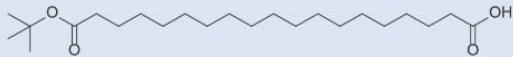
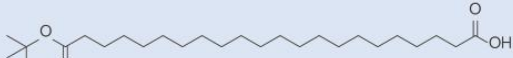


Common Fragments

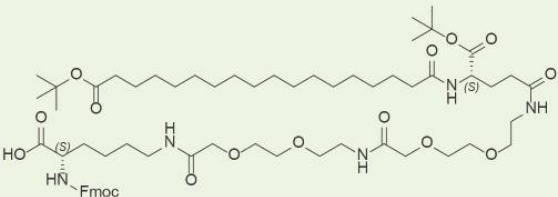
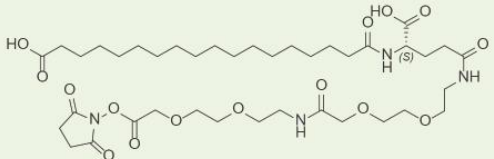
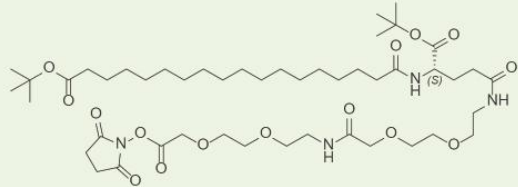
Catalog No.	Structure / Name	M.W. / CAS No.	Product Quality
LK0074	 AEEA	163.17 134978-97-5	Carry-over impurities < 0.10%
LK0153	 Fmoc-AEEA	385.41 166108-71-0	Carry-over impurities < 0.10%
LK0154	 Boc-AEEA	263.29 108466-89-3	Carry-over impurities < 0.10%
LK0046	 AEEA-AEEA	308.33 1143516-05-5	Carry-over impurities < 0.10%
LK0127	 Boc-AEEA-AEEA	408.44 1069067-08-8	Carry-over impurities < 0.10%
LK0137	 Fmoc-AEEA-AEEA	530.57 560088-89-3	Carry-over impurities < 0.10%
LK0138	 14-(tert-Butoxy)-14-oxotetradecanoic acid	314.46 234082-00-9	Carry-over impurities < 0.10%
LK0069	 18-(tert-Butoxy)-18-oxooctadecanoic acid	370.57 843666-40-0	Carry-over impurities < 0.10%
LK0070	 20-(tert-Butoxy)-20-oxoicosanoic acid	398.62 683239-16-9	Carry-over impurities < 0.10%



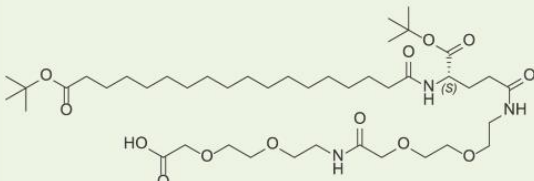
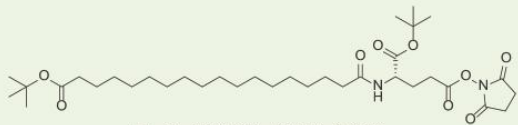
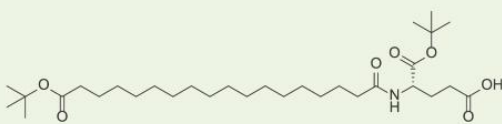
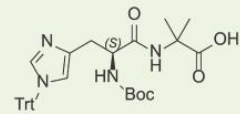
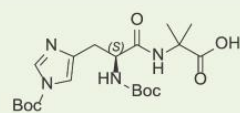
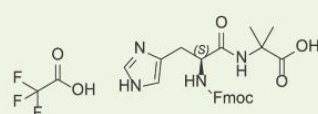
Common Fragments

Catalog No.	Structure / Name	M.W. / CAS No.	Product Quality
LK0225	 19-(tert-Butoxy)-19-oxononadecanoic acid	384.59 1643852-37-2	Carry-over impurities < 0.10%
LK0129	 22-(tert-Butoxy)-22-oxodocosanoic acid	426.67 1642333-05-8	Carry-over impurities < 0.10%

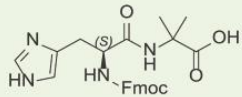
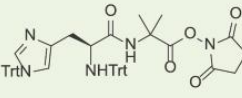
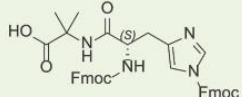
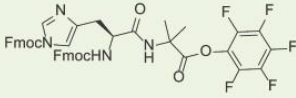
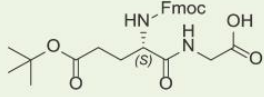
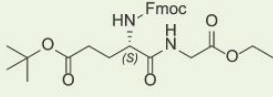
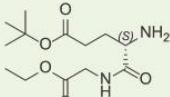
Semaglutide Intermediates

Catalog No.	Structure / Name	M.W. / CAS No.	Product Quality
LK0053	 Fmoc-L-Lys[Oct-OtBu-γ-Glu(OtBu)-AEEA-AEEA]-OH	1196.53 1662688-20-1	DMF No. 043874 Single impurities < 0.10%
LK0065	 Ste-γ-Glu-AEEA-AEEA-OSu	830.96 1169630-40-3	DMF No. 043877 Carry-over impurities < 0.10%
LK0052	 tBuO-C18-γ-Glu(AEEA-AEEA-OSu)-OtBu	943.17 1118767-15-9	/

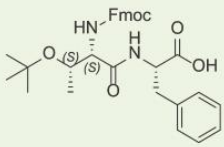
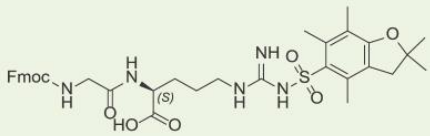
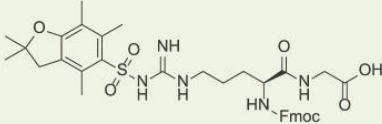
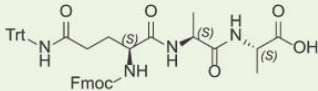
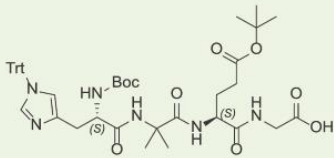
Semaglutide Intermediates

Catalog No.	Structure / Name	M.W. / CAS No.	Product Quality
LK0047	 tBuO-Ste-γ-Glu(AEEA-AEEA-OH)-OtBu	846.11 1118767-16-0	DMF No. 043879 Single impurities < 0.10%
LK0050	 tBuO-C18-OSu	467.64 843666-34-2	Carry-over impurities < 0.10%
LK0051	 tBuO-C18-Glu(OtBu)-OSu	652.86 1188328-22-4	Carry-over impurities < 0.10%
LK0058	 Octa(OtBu)-Glu-OtBu	555.8 1188328-39-3	Carry-over impurities < 0.10%
LK0048	 Boc-L-His(Trt)-Aib-OH	582.70 2061897-68-3	Single impurities < 0.10%
LK0105	 Boc-L-His(Boc)-Aib-OH	440.49 2765344-17-8	Single impurities < 0.10%
LK0066	 Fmoc-His-Aib-OH · TFA	576.53 1446013-08-6	Single impurities < 0.10%

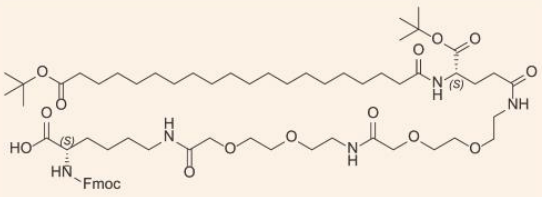
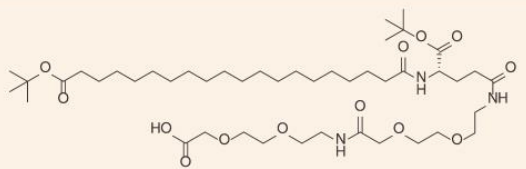
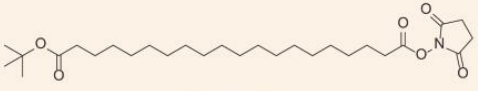
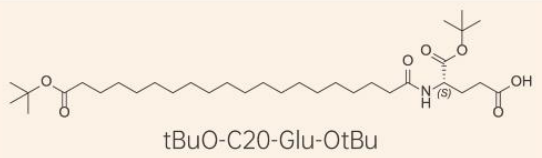
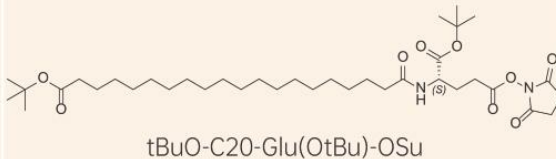
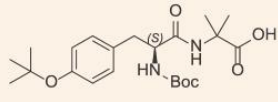
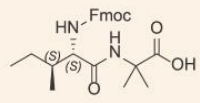
Semaglutide Intermediates

Catalog No.	Structure / Name	M.W. / CAS No.	Product Quality
LK0090	 Fmoc-His-Aib-OH	462.5 1446013-07-5	Single impurities < 0.10%
LK0219	 Trt-His(Trt)-Aib-OSu	821.98 /	/
LK0159	 Fmoc-L-His(Fmoc)-Aib-OH	684.75 /	Carry-over impurities < 0.10%
LK0220	 Fmoc-His(Fmoc)-Aib-OPFP	850.80 /	/
LK0071	 Fmoc-Glu(OtBu)-Gly-OH	482.53 866044-63-5	Single impurities < 0.10%
LK0119	 Fmoc-Glu(OtBu)-Gly-OEt	510.59 /	Single impurities < 0.10%
LK0143	 H-Glu(OtBu)-Gly-OEt	288.34 /	/

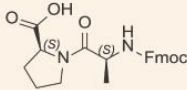
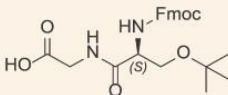
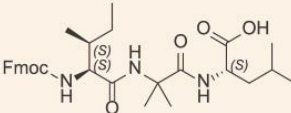
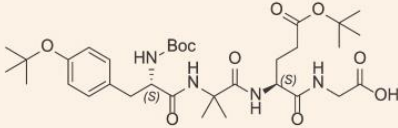
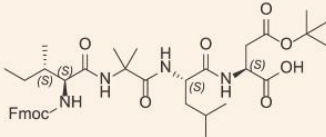
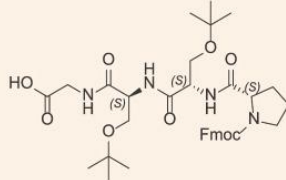
Semaglutide Intermediates

Catalog No.	Structure / Name	M.W. / CAS No.	Product Quality
LK0077	 Fmoc-Thr(tBu)-Phe-OH	544.65 1962160-86-6	Single impurities < 0.10%
LK0078	 Fmoc-Gly-Arg(Pbf)-OH	705.82 1048377-78-1	Single impurities < 0.10%
LK0198	 Fmoc-Arg(Pbf)-Gly-OH	705.83 660846-80-0	Single impurities < 0.10%
LK0126	 Fmoc-Gln(Trt)-Ala-Ala-OH	752.87 /	Single impurities < 0.10%
LK0063	 Boc-His(Trt)-Aib-Glu(OtBu)-Gly-OH	824.98 1890228-73-5	DMF No. 043873 Single impurities < 0.10%

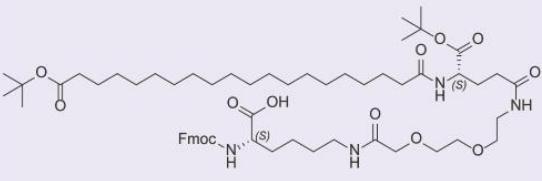
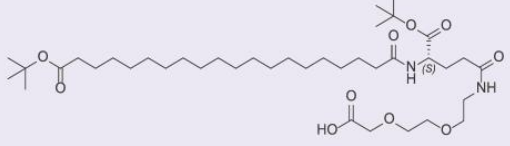
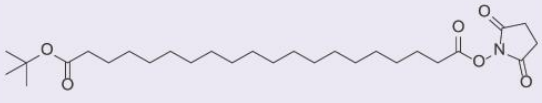
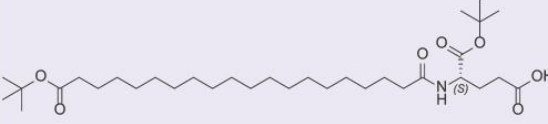
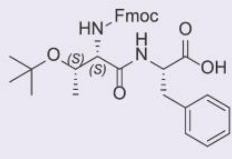
Tirzepatide Intermediates

Catalog No.	Structure / Name	M.W. / CAS No.	Product Quality
LK0056	 Fmoc-L-Lys[C20-OtBu-γ-Glu(OtBu)-AEEA-AEEA]-OH	1224.59 2915356-76-0	DMF No. 043876 Single impurities < 0.10%
LK0042	 C20-OtBu-γ-Glu(OtBu)-AEEA-AEEA-OH	874.15 1188328-37-1	DMF No. 043872 Single impurities < 0.10%
LK0054	 Boc-C18-NHS	495.70 1119061-69-6	Carry-over impurities < 0.10%
LK0089	 tBuO-C20-Glu-OtBu	583.85 1119061-70-9	Carry-over impurities < 0.10%
LK0055	 tBuO-C20-Glu(OtBu)-OSu	680.92 1119061-72-1	Carry-over impurities < 0.10%
LK0061	 Boc-Tyr(tBu)-Aib-OH	422.52 2639221-78-4	Single impurities < 0.10%
LK0062	 Fmoc-Ile-Aib-OH	438.52 2171139-20-9	Single impurities < 0.10%

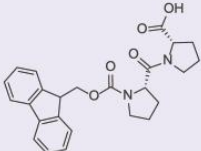
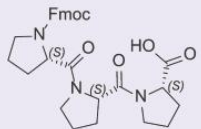
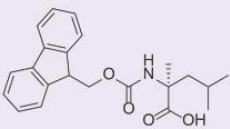
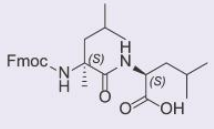
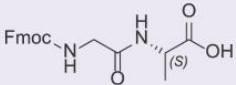
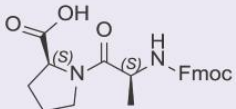
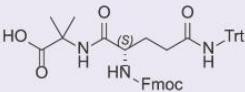
Tirzepatide Intermediates

Catalog No.	Structure / Name	M.W. / CAS No.	Product Quality
LK0067	 Fmoc-Ala-Pro-OH	408.45 186023-44-9	Single impurities < 0.10%
LK0068	 Fmoc-Ser(tBu)-Gly-OH	440.49 81672-17-5	Single impurities < 0.10%
LK0114	 Fmoc-Ile-Aib-leu-OH	551.68 /	Single impurities < 0.10%
LK0064	 Boc-Tyr(tBu)-Aib-Glu(OtBu)-Gly-OH	664.80 2682040-93-1	DMF No. 043875 Single impurities < 0.10%
LK0106	 Fmoc-Ile-Aib-Leu-Asp(OtBu)-OH	722.88 2915356-38-4	Single impurities < 0.10%
LK0102	 Fmoc-Pro-Ser(tBu)-Ser(tBu)-Gly-OH	680.80 /	Single impurities < 0.10%

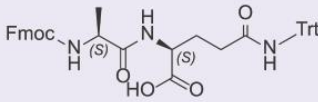
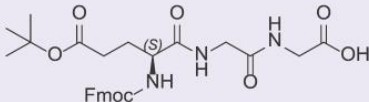
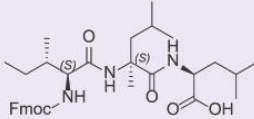
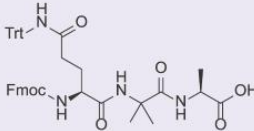
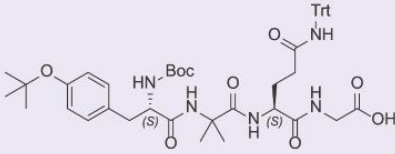
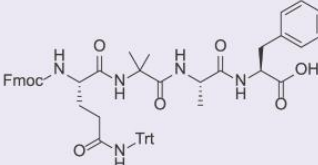
Retatrutide Intermediates

Catalog No.	Structure / Name	M.W. / CAS No.	Product Quality
LK0059	 Fmoc-L-Lys[C20-OtBu-γ-Glu(OtBu)-AEEA]-OH	1079.43 2612237-97-3	Single impurities < 0.10%
LK0101	 tBuO-C20-γ-Glu(AEEA)-OtBu	729.01 2645421-68-5	Single impurities < 0.10%
LK0054	 tBuO-C20-OSu	495.70 1119061-69-6	Carry-over impurities < 0.10%
LK0089	 tBuO-C20-Glu-OtBu	583.85 1119061-70-9	Carry-over impurities < 0.10%
LK0055	 tBuO-C20-Glu(OtBu)-OSu	680.92 1119061-72-1	Carry-over impurities < 0.10%
LK0077	 Fmoc-Thr(tBu)-Phe-OH	544.65 1962160-86-6	Single impurities < 0.10%

Retatrutide Intermediates

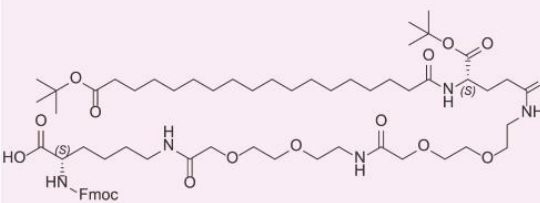
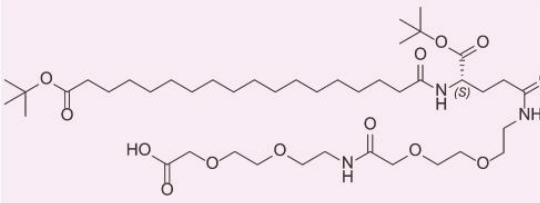
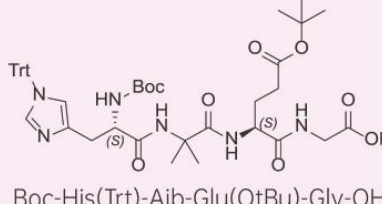
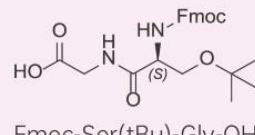
Catalog No.	Structure / Name	M.W. / CAS No.	Product Quality
LK0171	 Fmoc-Pro-Pro-OH	434.48 129223-22-9	Single impurities < 0.10%
LK0150	 Fmoc-Pro-Pro-Pro-OH	531.60 134303-96-1	Single impurities < 0.10%
LK0144	 Fmoc-α-Me-Leu-OH	367.44 312624-65-0	Single impurities < 0.10%
LK0195	 Fmoc-α-Me-Leu-Leu-OH	480.61 /	Single impurities < 0.10%
LK0096	 Fmoc-Gly-Ala-OH	368.38 71952-99-3	Single impurities < 0.10%
LK0067	 Fmoc-Ala-Pro-OH	408.45 186023-44-9	Single impurities < 0.10%
LK0140	 Fmoc-Gln(Trt)-Aib-OH	695.82 /	Single impurities < 0.10%

Retatrutide Intermediates

Catalog No.	Structure / Name	M.W. / CAS No.	Product Quality
LK0202	 Fmoc-Ala-Gln(Trt)-OH	681.79 /	Single impurities < 0.10%
LK0125	 Fmoc-Glu(OtBu)-Gly-Gly-OH	539.59 /	Single impurities < 0.10%
LK0139	 Fmoc-Ile-α-Me-Leu-Leu-OH	593.77 /	Single impurities < 0.10%
LK0180	 Fmoc-Gln(Trt)-Aib-Ala-OH	766.90 /	Single impurities < 0.10%
LK0092	 Boc-Tyr(tBu)-Aib-Gln(Trt)-Gly-OH	850.03 2612237-79-1	Single impurities < 0.10%
LK0181	 Fmoc-Gln(Trt)-Aib-Ala-Phe-OH	913.41 /	/

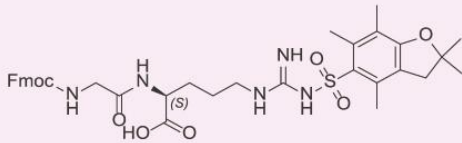
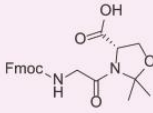
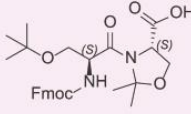
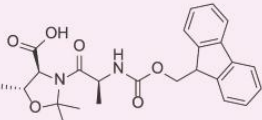
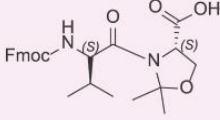
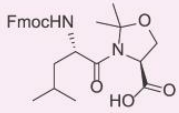


Amycretin Intermediates

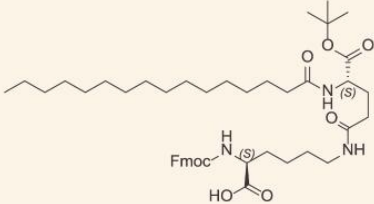
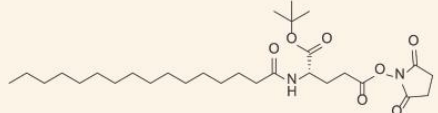
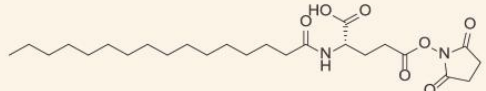
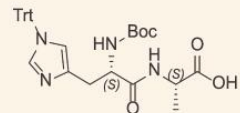
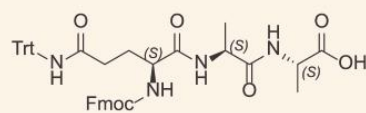
Catalog No.	Structure / Name	M.W. / CAS No.	Product Quality
LK0053	 Fmoc-L-Lys[Oct-OtBu-γ-Glu(OtBu)-AEEA-AEEA]-OH	1196.53 1662688-20-1	Single impurities < 0.10%
LK0047	 tBuO-Ste-γ-Glu(AEEA-AEEA-OH)-OtBu	846.11 1118767-16-0	Single impurities < 0.10%
LK0063	 Boc-His(Trt)-Aib-Glu(OtBu)-Gly-OH	824.98 1890228-73-5	Single impurities < 0.10%
LK0126	 Fmoc-Gln(Trt)-Ala-Ala-OH	752.87 /	Single impurities < 0.10%
LK0068	 Fmoc-Ser(tBu)-Gly-OH	440.49 81672-17-5	Single impurities < 0.10%
LK0077	 Fmoc-Thr(tBu)-Phe-OH	544.65 1962160-86-6	Single impurities < 0.10%



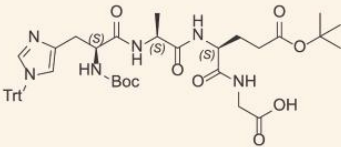
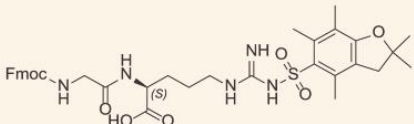
Amycretin Intermediates

Catalog No.	Structure / Name	M.W. / CAS No.	Product Quality
LK0078	 Fmoc-Gly-Arg(Pbf)-OH	705.82 1048377-78-1	Single impurities < 0.10%
LK0080	 Fmoc-Gly-Ser[Psi(Me,Me)Pro]-OH	424.45 1095952-22-9	Single impurities < 0.10%
LK0083	 Fmoc-Ser(tBu)-Ser[Psi(Me,Me)Pro]-OH	510.58 1000164-43-1	Single impurities < 0.10%
LK0172	 Fmoc-Ala-Thr(Psi(Me,Me)Pro)-OH	452.50 252554-79-3	Single impurities < 0.10%
LK0206	 Fmoc-Val-Ser[Psi(Me,Me)Pro]-OH	466.53 186023-49-4	Single impurities < 0.10%
LK0211	 Fmoc-Leu-Ser[Psi(Me,Me)Pro]-OH	480.56 339531-50-9	Single impurities < 0.10%

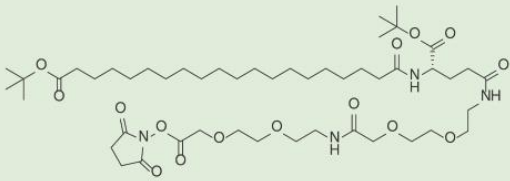
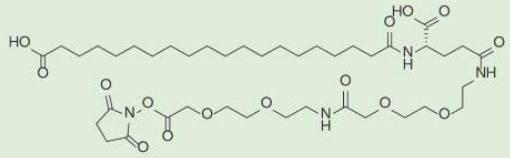
Liraglutide Intermediates

Catalog No.	Structure / Name	M.W. / CAS No.	Product Quality
LK0117	 Fmoc-Lys(Pal-Glu-OtBu)-OH	792.06 1491158-62-3	Single impurities < 0.10%
LK0108	 Pal-Glu(OSu)-OtBu	538.72 204521-63-1	Single impurities < 0.10%
LK0109	 Pal-Glu(OSu)-OH	482.61 294855-91-7	/
LK0118	 Pal-Glu(OH)-OtBu	441.64 536721-25-2	/
LK0088	 Boc-His(Trt)-Ala-OH	568.67 1454254-70-6	Single impurities < 0.10%
LK0126	 Fmoc-Gln(Trt)-Ala-Ala-OH	752.87 /	Single impurities < 0.10%

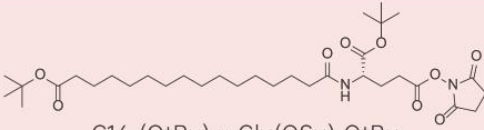
Liraglutide Intermediates

Catalog No.	Structure / Name	M.W. / CAS No.	Product Quality
LK0076	 Boc-His(Trt)-Ala-Glu(OtBu)-Gly-OH	810.95 1418291-58-3	Single impurities < 0.10%
LK0078	 Fmoc-Gly-Arg(Pbf)-OH	705.82 1048377-78-1	Single impurities < 0.10%

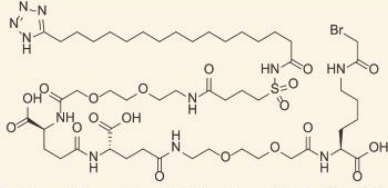
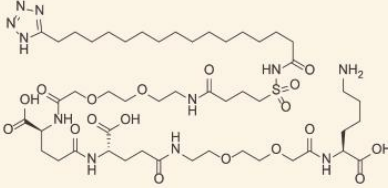
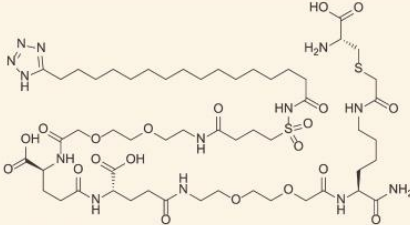
Insulin Icodec Intermediates

Catalog No.	Structure / Name	M.W. / CAS No.	Product Quality
LK0057	 tBuO-C20-γ-Glu(AEEA-AEEA-OSu)-OtBu	971.23 1118767-17-1	/
LK0094	 C20-γ-Glu(AEEA-AEEA-OSu)-OH	859.02 1188328-38-2	Carry-over impurities < 0.10%

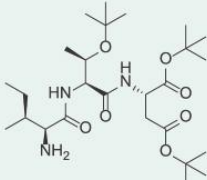
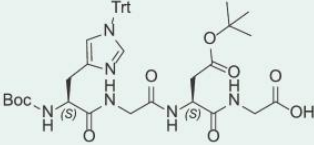
Insulin Degludec Intermediates

Catalog No.	Structure / Name	M.W. / CAS No.	Product Quality
LK0121	 HO-C16-Glu(OSu)-OH	512.59 943586-12-7	Carry-over impurities < 0.10%
LK0164	 C16-(OtBu)-γ-Glu(OSu)-OtBu	624.82 843666-26-2	Single impurities < 0.10%

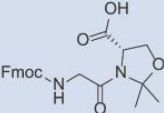
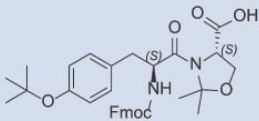
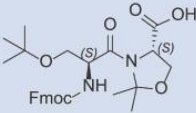
Somapacitan Intermediates

Catalog No.	Structure / Name	M.W. / CAS No.	Product Quality
LK0103	 TZ-Ste-SO ₂ -nBu-AEEA-Glu(OH)-Glu(OH)- AEEA-Lys(OH)-COCH ₂ Br	1271.29 1319729-54-8	Purity > 98%
LK0132	 TZ-Ste-SO ₂ -nBu-AEEA-Glu(OH)-Glu(OH)- AEEA-Lys(OH)-NH ₂	1150.35 1602829-51-5	Purity > 98%
LK0133	 TZ-Ste-SO ₂ -nBu-AEEA-Glu(OH)-Glu(OH)- AEEA-Lys(OH)-COCH ₂ -Cys	1310.55 1338578-34-9	Purity > 98%

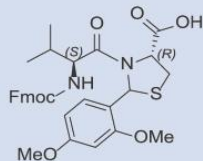
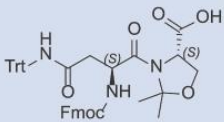
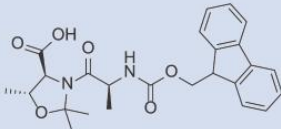
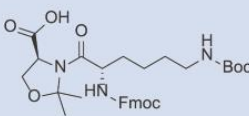
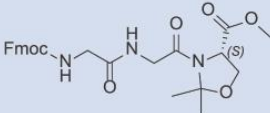
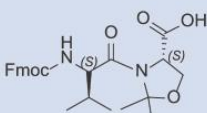
Teduglutide Intermediates

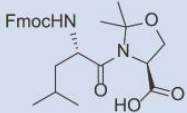
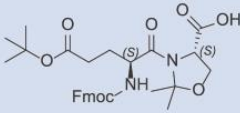
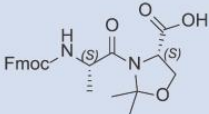
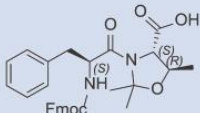
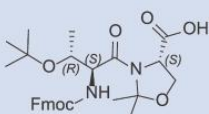
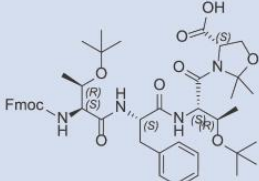
Catalog No.	Structure / Name	M.W. / CAS No.	Product Quality
LK0100	 H-Ile-Thr(tBu)-Asp(OtBu)-OtBu	515.69 /	/
LK0104	 Boc-His(Trt)-Gly-Asp(OtBu)-Gly-OH	782.90 1362481-32-0	Single impurities < 0.10%

Pseudo-proline

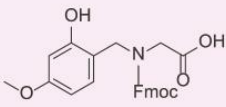
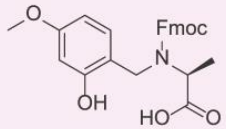
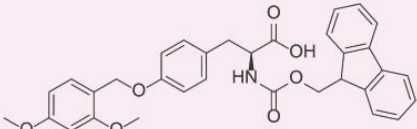
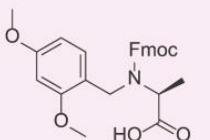
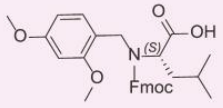
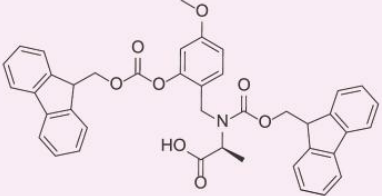
Catalog No.	Structure / Name	M.W. / CAS No.	Product Quality
LK0080	 Fmoc-Gly-Ser[Psi(Me,Me)Pro]-OH	424.45 1095952-22-9	Single impurities < 0.10%
LK0081	 Fmoc-Tyr(tBu)-Ser[Psi(Me,Me)Pro]-OH	586.69 878797-09-2	Single impurities < 0.10%
LK0083	 Fmoc-Ser(tBu)-Ser[Psi(Me,Me)Pro]-OH	510.58 1000164-43-1	Single impurities < 0.10%

Pseudo-proline

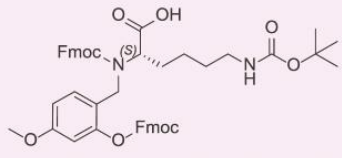
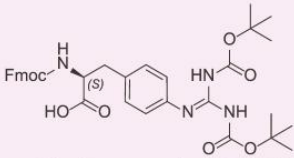
Catalog No.	Structure / Name	M.W. / CAS No.	Product Quality
LK0122	 Fmoc-Val-Cys(Psi(Dmp,H)Pro)-OH	590.69 1926163-08-7	Single impurities < 0.10%
LK0124	 Fmoc-Asn(Trt)-Ser[Psi(Me,Me)Pro]-OH	723.81 920519-33-1	Single impurities < 0.10%
LK0172	 Fmoc-Ala-Thr(Psi(Me,Me)Pro)-OH	452.50 252554-79-3	Single impurities < 0.10%
LK0189	 Fmoc-Lys(Boc)-Ser(Psi(Me,Me)Pro)-OH	595.68 957780-54-0	Single impurities < 0.10%
LK0204	 Fmoc-Gly-Gly-Ser[Psi(Me,Me)Pro]-OMe	495.53 /	Single impurities < 0.10%
LK0206	 Fmoc-Val-Ser[Psi(Me,Me)Pro]-OH	466.53 186023-49-4	Single impurities < 0.10%

Catalog No.	Structure / Name	M.W. / CAS No.	Product Quality
LK0211	 Fmoc-Leu-Ser[Psi(Me,Me)Pro]-OH	480.56 339531-50-9	Single impurities < 0.10%
LK0226	 Fmoc-Glu(OtBu)-Ser[Psi(Me,Me)Pro]-OH	552.62 909115-33-9	Single impurities < 0.10%
LK0227	 Fmoc-Ala-Ser[Psi(Me,Me)Pro]-OH	438.48 252554-78-2	Single impurities < 0.10%
LK0230	 Fmoc-Phe-Thr[Psi(Me,Me)Pro]-OH	528.61 1196703-48-6	Single impurities < 0.10%
LK0233	 Fmoc-Thr(tBu)-Ser[Psi(Me,Me)Pro]-OH	524.61 1425938-63-1	Single impurities < 0.10%
LK0234	 Fmoc-Thr(tBu)-Phe-Thr(tBu)-Ser[Psi(Me,Me)Pro]-OH	829.00 /	Purity > 99%

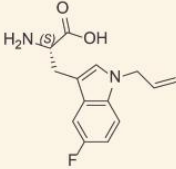
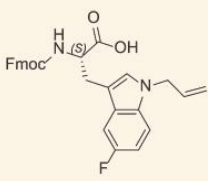
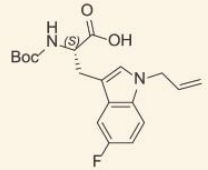
Special Protected Amino Acids

Catalog No.	Structure / Name	M.W. / CAS No.	Product Quality
LK0082	 Fmoc-N(HMB)-Gly-OH	433.46 148515-78-0	Single impurities < 0.10%
LK0178	 Fmoc-N(Hmb)-Ala-OH	447.49 148515-79-1	Purity > 99%
LK0188	 Fmoc-Tyr(Dmb)-OH	553.61 /	/
LK0192	 Fmoc-(Dmb)Ala-OH	461.51 1425938-66-4	Purity > 99% Single impurities < 0.10%
LK0207	 Fmoc-(Dmb)Leu-OH	503.59 1425938-65-3	Purity > 99% Single impurities < 0.10%
LK0173	 Fmoc-(Fmoc-Hmb)-Ala-OH	669.72 148515-85-9	Purity > 99%

Special Protected Amino Acids

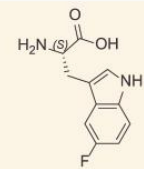
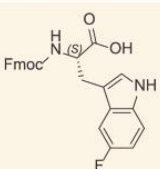
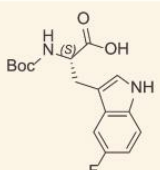
Catalog No.	Structure / Name	M.W. / CAS No.	Product Quality
LK0177	 Fmoc-[Fmoc-Hmb]-Lys(Boc)-OH	826.94 166881-56-7	Purity > 99%
LK0151	 Fmoc-Phe(4-guanidino-Boc2)-OH	644.71 187283-25-6	Purity > 99% Single impurities < 0.10%

MK0616 Key Amino Acids

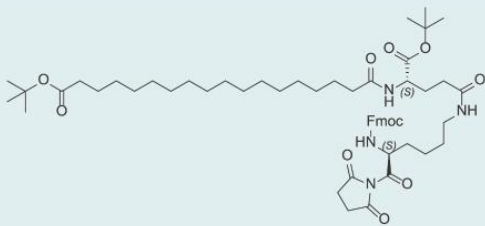
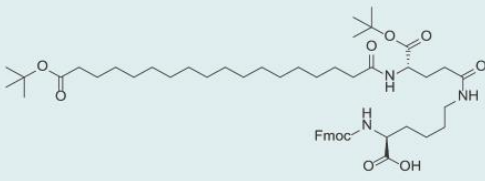
Catalog No.	Structure / Name	M.W. / CAS No.	Product Quality
LK0223	 L-Trp(5-F)-All-OH	262.28 3067192-74-6	Purity > 99% Single impurities < 0.10%
LK0203	 Fmoc-L-Trp(5-F)-All-OH	484.53 3067192-76-8	Purity > 99% Single impurities < 0.10%
LK0209	 Boc-L-Trp(5-F)-All-OH	362.40 2407463-91-4	Purity > 99% Single impurities < 0.10%



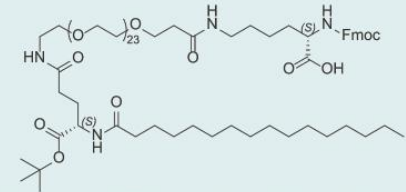
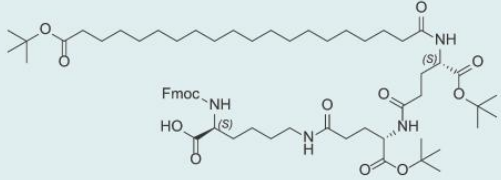
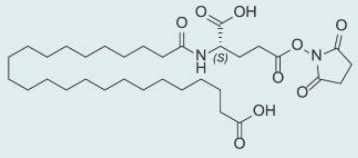
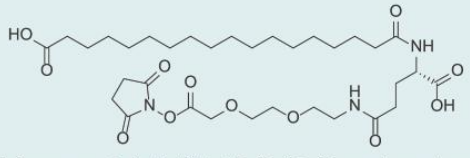
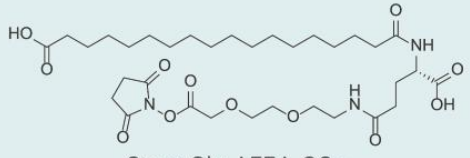
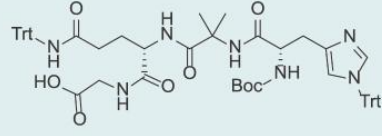
MK0616 Key Amino Acids

Catalog No.	Structure / Name	M.W. / CAS No.	Product Quality
LK0199	 L-Trp(5-F)-OH	222.22 16626-02-1	Purity > 99% Single impurities < 0.10%
LK0200	 Fmoc-L-Trp(5-F)-OH	444.46 908846-88-8	Purity > 99% Single impurities < 0.10%
LK0201	 Boc-L-Trp(5-F)-OH	322.34 53478-53-8	Purity > 99% Single impurities < 0.10%

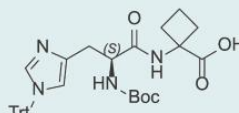
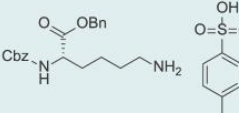
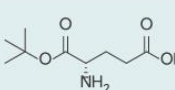
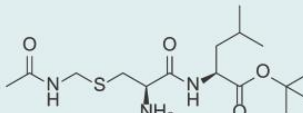
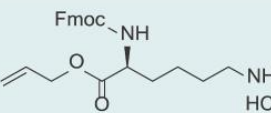
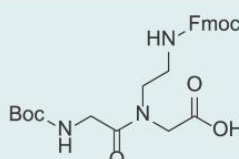
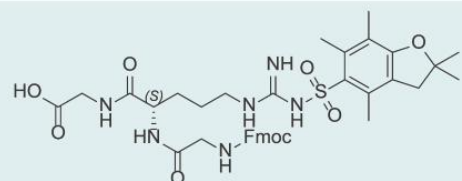
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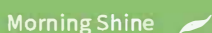
Catalog No.	Structure / Name	M.W. / CAS No.
LK0116	 Fmoc-Lys[OtBu-C18-γ-Glu(OtBu)]-OSu	987.29 /
LK0079	 Fmoc-Lys[OtBu-C18-γ-Glu(OtBu)]-OH	906.22 1931109-48-6

Others

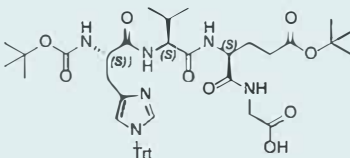
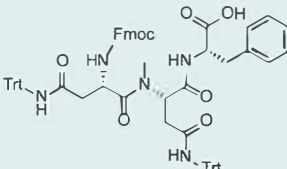
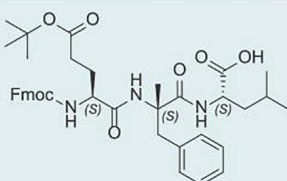
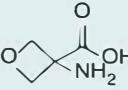
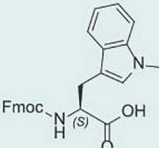
Catalog No.	Structure / Name	M.W. / CAS No.
LK0142	 Fmoc-Lys[PEG24-γ-Glu(OtBu)-Pal]-OH	1920.42 /
LK0186	 Fmoc-L-Lys[C20-OtBu-Glu(OtBu)-Glu(OtBu)]-OH	1119.49 /
LK0168	 HO-C24-γ-Glu(OSu)-OH	624.82 /
LK0222	 1,1'-(butane-1,4-diyl)bis(3-(2-(2-(2-aminoethoxy)ethoxy)ethyl)urea) dihydrochloride	436.55 1571103-88-2 (Hydrochloride)
LK0212	 Ste-γ-Glu-AEEA-OSu	685.8 1217489-31-0
LK0075	 Boc-His(Trt)-Aib-Gln(Trt)-Gly-OH	1009.47 /

Others

Catalog No.	Structure / Name	M.W. / CAS No.
LK0060	 Boc-L-His(Trt)-1-Aminocyclobutanecarboxylic acid	594.71 /
LK0136	 Z-Lys-(TsOH)-OBzl	542.65 5361-91-1
LK0072	 L-Glutamic acid α-tert-butyl ester	203.24 45120-30-7
LK0093	 H-Cys(Acm)-Leu-OtBu	361.51 1396009-62-3
LK0112	 Fmoc-Lys-OAll·HCl	444.95 815619-80-8
LK0115	 Boc-Gly-Aeg(Fmoc)-OH	497.55 /
LK0145	 Fmoc-Gly-Arg(Pbf)-Gly-OH	762.88 /



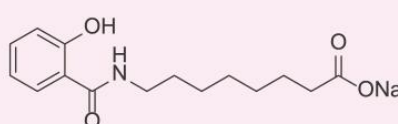
Others

Catalog No.	Structure / Name	M.W. / CAS No.
LK0152	 Boc-His(Trt)-Val-Glu(OtBu)-Gly-OH	839.00 /
LK0228	 Fmoc-Asn(Trt)-Me-Asn(Trt)-Phe-OH	1114.31 /
LK0229	 Fmoc-Glu(OtBu)-Me-Phe-Leu-OH	699.85 /
AN0034	 3-Aminooxetane-3-carboxylic acid	117.1 138650-24-5
LK0165	 Fmoc-Trp(1-Me)-OH	440.50 1334509-86-2

Key Product Advantages

- **High Quality:** Strict impurity control with single impurities below 0.10%.
- **Large Manufacturing Capacity:** Annual capacity exceeds 100 tons for side chains and 300 tons for short peptides.
- **Strong CMC Support:** Comprehensive quality studies supporting regulatory submissions.
- **GMP & Regulatory Support:** GMP manufacturing supporting starting material justification, DMF filing, and joint submissions.

SNAC >>>

Catalog No.	Structure / Name	M.W. / CAS No.
LK0095	 SNAC	301.32 203787-91-1

Key Product Advantages

- **Ultra pure:** Purity>99.995%, single impurities<0.01%, highest purity currently available.

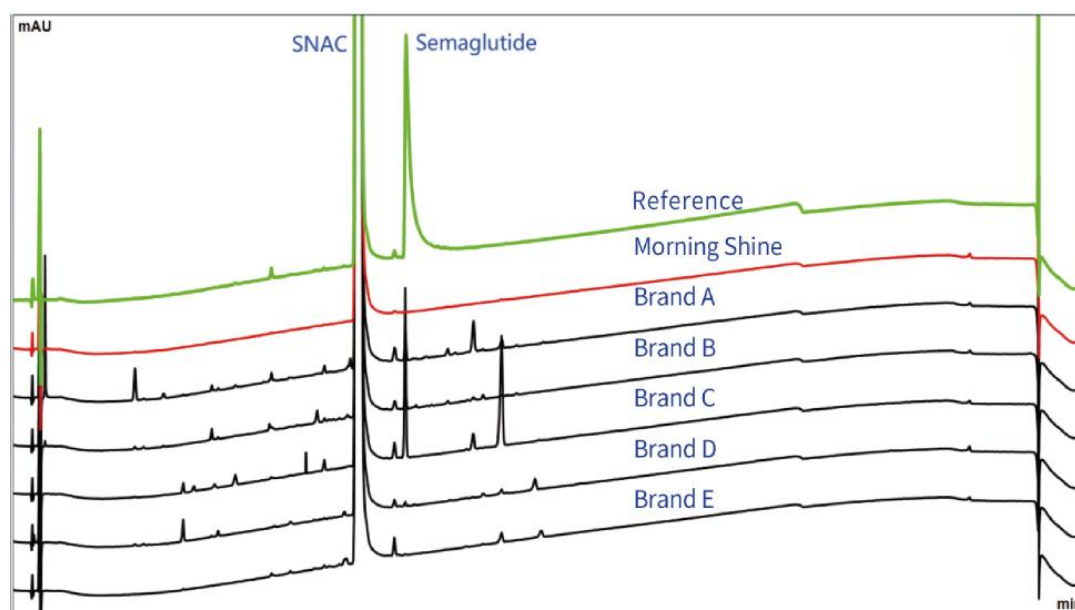


Figure 6 HPLC chromatograms comparing Morning Shine SNAC with the reference semaglutide formulation and multiple domestic and international SNAC products are shown above (from top to bottom: reference formulation, Morning Shine SNAC, and other brands 1–5). Morning Shine SNAC demonstrates an impurity profile highly consistent with the reference formulation, with comparable impurity distribution and lower detectable impurity levels, indicating significantly higher quality than commercially available alternatives.

- **Appearance:** Bright white SNAC. Many commercially available SNAC products show off-white or yellowish appearance at scale; given the high SNAC loading in the formulation, this often results in off-colored tablets. Our SNAC remains white after tableting.
- **Crystal Form & Particle Size:** Crystal form consistent with the reference product, with customizable particle size for R&D and commercial needs.

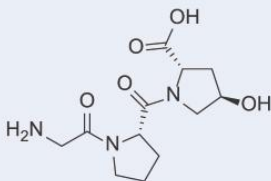
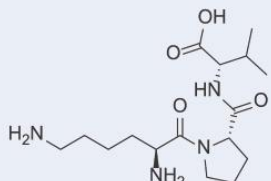
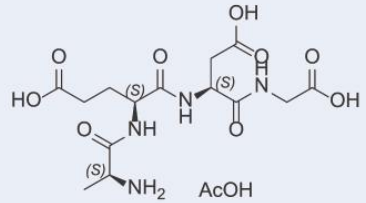
TFA-Free Cosmetic Peptides >>>

Cosmetic peptides are typically short peptides containing 3–10 amino acids and are commonly manufactured through solid-phase peptide synthesis (SPPS). However, SPPS generally involves resin-based synthesis and downstream column purification, resulting in relatively high production costs. In addition, TFA cleavage is unavoidable in SPPS processes. For highly polar or strongly basic peptides, residual TFA can be difficult to completely remove during purification, making it challenging to meet increasingly stringent regulatory requirements for TFA residue control.

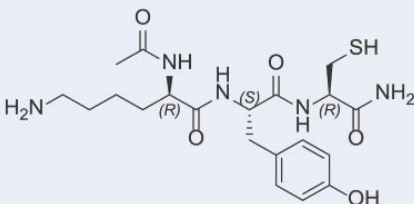
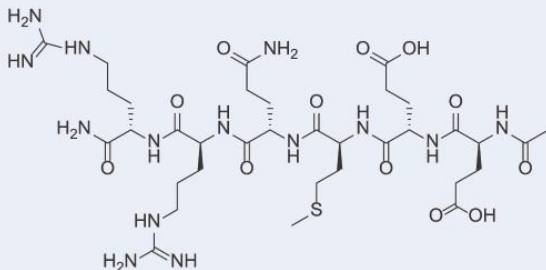
Morning Shine Pharma possesses strong liquid-phase peptide synthesis (LPPS) capabilities and advanced purification technologies. In recent years, the company has successfully completed the development and CMO manufacturing of dozens of cosmetic peptides using fully LPPS processes.

Although LPPS process development is more challenging than SPPS, successful processes offer significant cost advantages. In addition, fully liquid-phase synthesis enables completely TFA-free manufacturing without the need for TFA cleavage.

The product list below includes selected cosmetic peptides without confidentiality restrictions.

Catalog No.	Structure / Name	M.W. / CAS No.
LK0084	 H-Gly-Pro-Hyp-OH (Tripeptide-29)	285.30 2239-67-0
LK0210	 H-Lys-Pro-Val-OH (KPV)	342.44 67727-97-3
LK0208	 Ala-Glu-Asp-Gly-OH (Epitalon)	390.35 307297-39-8 (Free base)



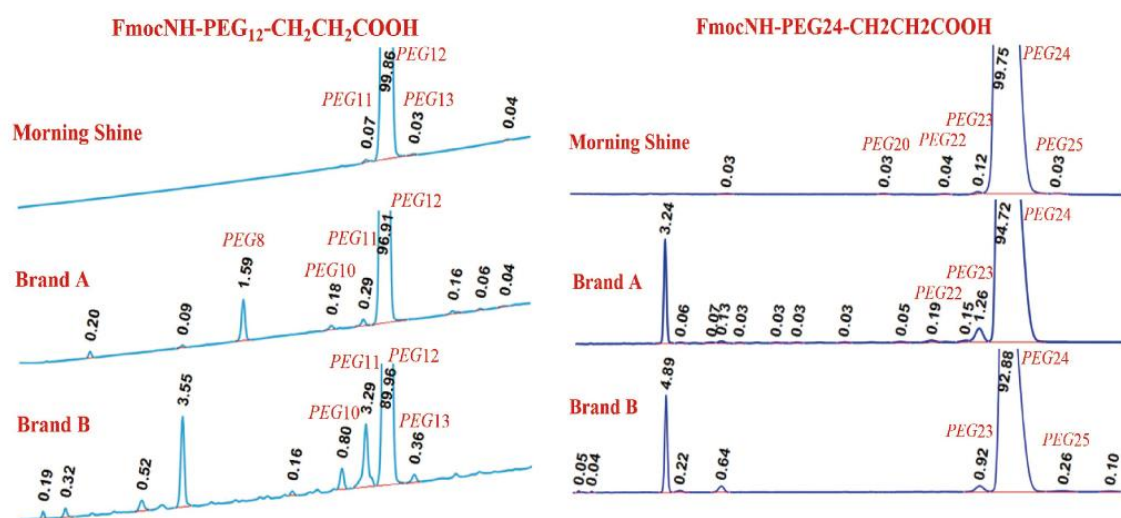
Catalog No.	Structure / Name	M.W. / CAS No.
LK0107	 Ac-Lys-Tyr-Cys-NH2 (Myeloperoxidase inhibitor KYC)	453.56 1287585-40-3
LK0163	 Ac-Glu-Glu-Met-Gln-Arg-Arg-NH2 (Argireline)	888.99 616204-22-9

Monodisperse PEG Derivatives >>>

Monodisperse PEG is widely used as a drug modification tool or linker in advanced therapeutics, including small molecules, peptides, oligonucleotides, and proteins. Due to the challenges associated with synthesis and purification, commercially available monodisperse PEG products have exhibited relatively high homolog impurities and significant batch-to-batch variability, potentially introducing safety risks to downstream therapeutics.

Recently, the U.S. FDA has issued regulatory guidance clarifying that PEG linkers used in XDC therapeutics should be controlled according to the standards applied to small-molecule drugs, with quality studies conducted in accordance with ICH guidelines. This also requires homolog impurities to be evaluated and controlled based on the identification threshold (0.10%) and qualification threshold (0.15%) defined in ICH Q3A.

After years of dedicated R&D, Morning Shine Pharma has successfully overcome key technical challenges in homolog impurity control and purification, enabling large-scale manufacturing of high-purity monodisperse PEGs and PEG derivatives. Homolog impurities in Morning Shine PEG4–PEG12 products are controlled below 0.10%, while PEG16–PEG24 products maintain homolog impurities below 0.15%, representing significantly higher quality than commercially available alternatives.



HPLC Comparison of PEG12 and Commercial Alternatives

HPLC Comparison of PEG24 and Commercial Alternatives

The HPLC chromatograms above compare representative PEG12 and PEG24 products from Morning Shine Pharma with commercially available products from both domestic and international suppliers, demonstrating a substantial difference in homolog impurity levels.

Morning Shine Pharma has achieved a technological breakthrough in homolog impurity control and purification, addressing the biopharmaceutical industry's urgent demand for high-quality monodisperse PEG materials. These advances not only improve the safety profile of downstream therapeutics, but also support compliance with current CMC regulatory requirements for drug registration.



Monodisperse PEG Derivatives

$n \leq 45$; Ultra-low homolog impurities (ω): $n=4\sim 12$, $\omega \leq 0.10\%$; $n=16\sim 24$, $\omega \leq 0.15\%$

Product Type	Product Name
Polyethylene Glycol Reagent	$m\text{PEG}_n\text{-OH}$; $m\text{PEG}_n\text{-NH}_2$ $m\text{PEG}_n\text{-N}_3$; $m\text{PEG}_n\text{-NH-Mal}$ $m\text{PEG}_n\text{-Propyne}$ $m\text{PEG}_n\text{-Hydrazide}$ $m\text{PEG}_n\text{-Br}$ $m\text{PEG}_n\text{-CH}_2\text{CH}_2\text{COOH}$ $m\text{PEG}_n\text{-CH}_2\text{CH}_2\text{COONHS Ester}$
Bifunctional Linkers	$\text{HO-PEG}_n\text{-OH}$ $\text{H}_2\text{N-PEG}_n\text{-CH}_2\text{CH}_2\text{NH}_2$ $\text{HOOCCH}_2\text{CH}_2\text{O-PEG}_n\text{-CH}_2\text{CH}_2\text{COOH}$ $\text{NHS-PEG}_n\text{-NHS}$ $\text{Mal-NH-PEG}_n\text{-NH-Mal}$ $\text{Mal-PEG}_n\text{-CH}_2\text{CH}_2\text{Mal}$ $\text{Br-PEG}_n\text{-CH}_2\text{CH}_2\text{Br}$ $\text{Hydrazide-PEG}_n\text{-Hydrazide}$ $\text{Propyne-PEG}_n\text{-Propyne}$ $\text{HOOCCH}_2\text{-PEG}_n\text{-CH}_2\text{COOH}$
Heterobifunctional Linkers	$\text{H}_2\text{N-PEG}_n\text{-CH}_2\text{COOH}$ $\text{H}_2\text{N-PEG}_n\text{-CH}_2\text{CH}_2\text{COOH}$ $\text{H}_2\text{N-PEG}_n\text{-Hydrazide}$ $\text{HO-PEG}_n\text{-CH}_2\text{CH}_2\text{COOH}$ $\text{HO-PEG}_n\text{-CH}_2\text{COOH}$ $\text{Maleimide-PEG}_n\text{-CH}_2\text{CH}_2\text{COOH}$ $\text{Maleimide-NH-PEG}_n\text{-CH}_2\text{CH}_2\text{COOH}$ $\text{Maleimide-NH-PEG}_n\text{-CH}_2\text{CH}_2\text{COONHS Ester}$ $\text{HS-PEG}_n\text{-OH}$ $\text{HS-PEG}_n\text{-CH}_2\text{CH}_2\text{NH}_2$ $\text{HS-PEG}_n\text{-CH}_2\text{CH}_2\text{COOH}$ $\text{HS-PEG}_n\text{-CH}_2\text{CH}_2\text{N}_3$
Click Chemistry Reagents	$\text{N}_3\text{-PEG}_n\text{-OH}$ $\text{N}_3\text{-PEG}_n\text{-CH}_2\text{CH}_2\text{Br}$ $\text{N}_3\text{-PEG}_n\text{-CH}_2\text{CH}_2\text{NH}_2$ $\text{N}_3\text{-PEG}_n\text{-CH}_2\text{COOH}$ $\text{N}_3\text{-PEG}_n\text{-CH}_2\text{CH}_2\text{COOH}$ $\text{N}_3\text{-PEG}_n\text{-CH}_2\text{CH}_2\text{COONHS Ester}$ $\text{N}_3\text{-PEG}_n\text{-Hydrazide}$ $\text{HO-PEG}_n\text{-Propyne}$ $\text{H}_2\text{N-PEG}_n\text{-Propyne}$ $\text{Propyne-PEG}_n\text{-CH}_2\text{CH}_2\text{COOH}$



Monodisperse PEG Derivatives

$n \leq 45$; Ultra-low homolog impurities (ω): $n=4\sim 12$, $\omega \leq 0.10\%$; $n=16\sim 24$, $\omega \leq 0.15\%$

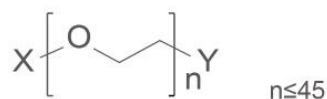
Product Type	Product Name
Copper-free Click Chemistry Reagents	DBCO-NH-PEG _n -CH ₂ CH ₂ NH ₂ DBCO-NH-PEG _n -Maleimide DBCO-NH-PEG _n -CH ₂ CH ₂ COOH DBCO-NH-PEG _n -CH ₂ CH ₂ COONHS Ester DBCO-NH-PEG _n -Biotin Methyltetrazine-CH ₂ NHCO-PEG _n -CH ₂ CH ₂ NH ₂ Methyltetrazine-CH ₂ NHCO-PEG _n -Propyne Methyltetrazine-CH ₂ NHCO-PEG _n -CH ₂ CH ₂ COOH Methyltetrazine-CH ₂ NHCO-PEG _n -CH ₂ CH ₂ NHBoc Methyltetrazine-CH ₂ NHCO-PEG _n -CH ₂ CH ₂ COONHS Methyltetrazine-CH ₂ NHCO-PEG _n -CH ₂ CH ₂ NHMal Methyltetrazine-CH ₂ NHCO-PEG _n -Biotin
Protected Linkers	Fmoc-NH-PEG _n -CH ₂ COOH Fmoc-NH-PEG _n -CH ₂ CH ₂ COOH BocNH-PEG _n -OH BocNH-PEG _n -CH ₂ CH ₂ NH ₂ BocNH-PEG _n -CH ₂ CH ₂ N ₃ Boc-PEG _n -CH ₂ COOH Boc-PEG _n -CH ₂ CH ₂ COOH CBZ-PEG _n -CH ₂ COOH CBZ-PEG _n -CH ₂ CH ₂ COOH SPDP-PEG _n -CH ₂ CH ₂ COOH HO-PEG _n -CH ₂ CH ₂ COOtBu HO-PEG _n -CH ₂ COOtBu H ₂ N-PEG _n -CH ₂ COOtBu H ₂ N-PEG _n -CH ₂ CH ₂ COOtBu N ₃ -PEG _n -CH ₂ CH ₂ COOtBu HS-PEG _n -CH ₂ CH ₂ COOtBu HO-PEG _n -Benzyl Ester N-Boc-PEG _n -CH ₂ CH ₂ Br BnO-PEG _n -OH N-CBZ-PEG _n -CH ₂ CH ₂ NH ₂ N-Fmoc-PEG _n -CH ₂ CH ₂ COONHS Ester

Monodisperse PEG Derivatives

$n \leq 45$; Ultra-low homolog impurities (ω): $n=4\sim 12$, $\omega \leq 0.10\%$; $n=16\sim 24$, $\omega \leq 0.15\%$

Product Type	Product Name
Biotinylation Reagents	(+)-Biotin-PEG _n -OH (+)-Biotin-PEG _n -CH ₂ CH ₂ NH ₂ (+)-Biotin-PEG _n -CH ₂ CH ₂ COOH (+)-Biotin-PEG _n -CH ₂ CH ₂ COONHS Ester (+)-Biotin-PEG _n -Hydrazide (+)-Biotin-PEG _n -CH ₂ CH ₂ N ₃ (+)-Biotin-PEG _n -NH-Maleimide

PEG Functionalized Building Blocks and Custom Synthesis Services

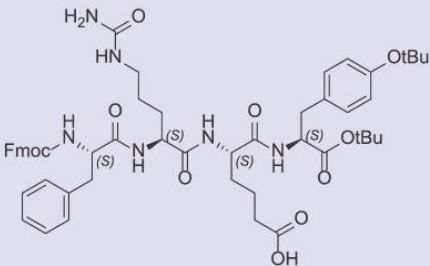
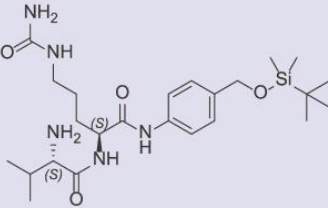
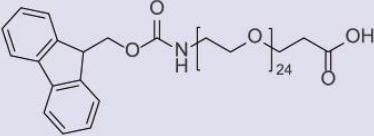
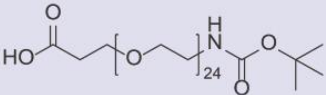


Our company provides custom synthesis of high-quality PEG functionalized derivatives, including PROTACs, ADC Linkers, group protection, click chemistry, and customized derivatization of amino, carboxyl, alkynyl, azido, ester, amide, halogenated, fluorescent, biotin, DOTA and other functional groups.

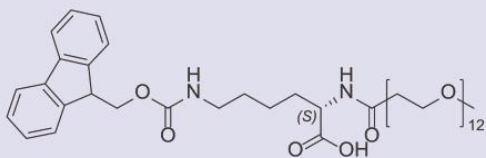
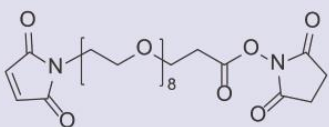
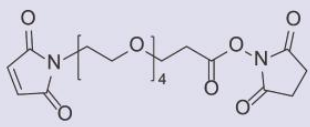
Key Product Advantages

- Ultra-Low Homolog Impurities**
 Compliant with ICH Q3A requirements: $\leq 0.10\%$ for PEG4–12 and $\leq 0.15\%$ for PEG16–24.
- Capacity Advantages**
 Scalable and cost-efficient manufacturing, with PEG24 production exceeding 50 kg per batch.
- Regulatory Support**
 Comprehensive analytical and quality studies supporting regulatory submissions.
- GMP Manufacturing Support**
 GMP manufacturing supporting starting material justification, DMF filing, and joint submissions.

XDC Linker >>>

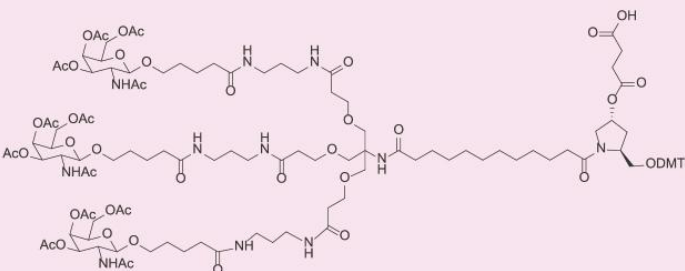
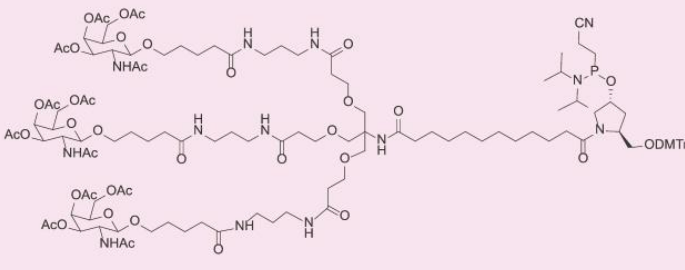
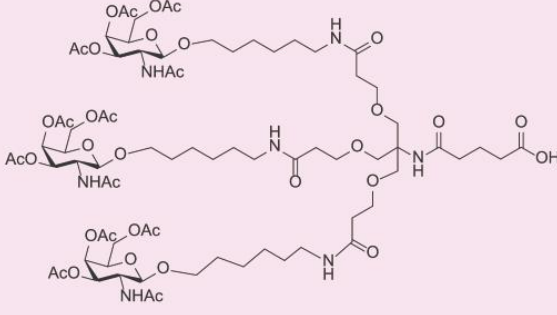
Catalog No.	Structure / Name	M.W. / CAS No.
LK0170	 Fmoc-Phe-Cit-LAA-Tyr(tBu)-OtBu	963.14 /
LK0214	 Val-Cit-PAB-OSBT	493.72 2210262-26-1
EG0012	 Fmoc-NH-PEG₂₄-CH₂CH₂COOH	1368.61 2170484-59-8
EG0063	 Boc-NH-PEG₂₄-CH₂CH₂COOH	1246.48 2839118-68-0



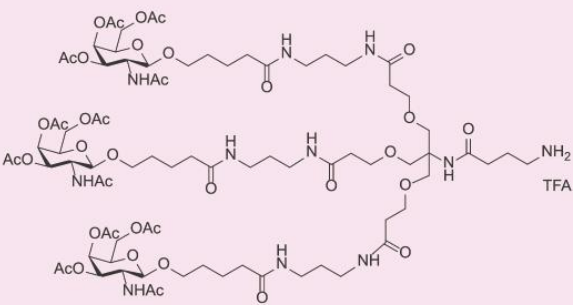
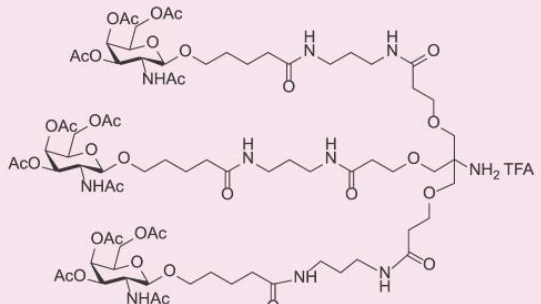
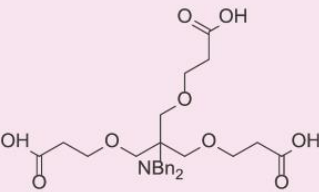
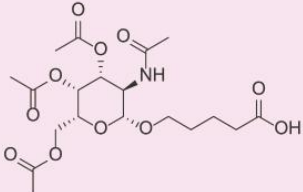
Catalog No.	Structure / Name	M.W. / CAS No.
EG0053	 mPEG₁₂-N⁶-Fmoc-Lys-COOH	939.11 3004874-22-7
EG0023	 Mal-PEG₈-NHS	618.63 2055033-05-9
EG0058	 Mal-PEG₄-NHS	442.42 1325208-25-0

Oligonucleotide Intermediates >>>

GalNAc Derivatives

Catalog No.	Structure / Name	M.W. / CAS No.
DS0001	 GalNAc-L96-Succinate, TEA salt	2608.96 1159408-62-4
DS0003	 GalNAc-L96 Phosphoramidite	385.41 /
DS0011	 THA8	1736.87 1637413-82-1

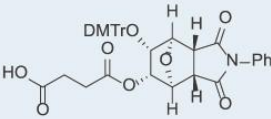
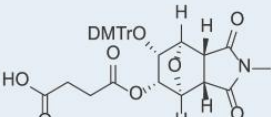
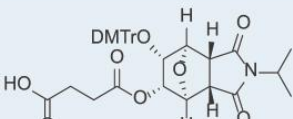
GalNAc Derivatives

Catalog No.	Structure / Name	M.W. / CAS No.
DS0022	 Tri-GalNAc-β-C4-NH₂ TFA	1976.05 /
DS0008	 Tri-GalNAc(OAc)₃ TFA	1907.93 1159408-65-7
DS0013	 3,3'-((2-((2-carboxyethoxy)methyl)-2-(dibenzylamino)propane-1,3-diyl)bis(oxy))dipropionic acid	517.57 /
DS0006	 Peracetylated GalNAc Pentenoic Acid	447.44 1159408-54-4

GalNAc Derivatives

Catalog No.	Structure / Name	M.W. / CAS No.
DS0012	 12-((2S,4R)-2-((bis(4-methoxyphenyl)(phenyl)methoxy)methyl)-4-hydroxypyrrolidin-1-yl)-12-oxododecanoic acid	631.81 1159408-70-4

Linkers for Solid Phase Synthesis

Catalog No.	Structure / Name	M.W. / CAS No.
LK0041	 Unylinker-Ph	677.71 (Free base) 852684-09-4
LK0044	 Unylinker-Me	615.64 (Free base)
LK0045	 Unylinker-Pr	643.69 (Free base)

Key Product Advantages

- **High Purity:** GalNAc purity >99% with Single impurities <0.1%.
- **Large-Scale Supply:** 50+ kg scale delivery capability.
- **Comprehensive Quality & GMP Support:** Comprehensive quality studies and GMP manufacturing supporting regulatory submissions, including starting material justification, DMF filing, and joint submissions.
- **Custom Synthesis:** Custom development of novel GalNAc structures available.

INSTRUMENTS



2sets NMR

NMR 600MHz
NMR 400MHz

5sets HRMS

Thermo Orbitrap Fusion Tribrid
CMP ECE-001+EMASS-II
Thermo Q Exactive Orbitrap (2)
AB Sciex TripleTOF

16sets LC-MS, MS/MS

Agilent
Thermo
AB Sciex

4sets GC-MS, MS/MS

Agilent
Thermo

70⁺sets HPLC

30⁺sets Prep HPLC

Others

SFC, ICP-MS, ICS, IR, Ultramicro UV-Vis,
Protein Purifier, Multimode microplate
reader ...



Bruker NMR 600MHz



Thermo Scientific Orbitrap Fusion Tribrid



AB SCIEX TripleTOF



Thermo Scientific Q Exactive Orbitrap



Agilent LC-MS/MS



Agilent-Thermo LC-Orbitrap-MS



Agilent Triple Quadrupole GC-MS



Thermo ICS



Agilent ICP-MS

EXPLORE OUR LABORATORY



Synthesis Laboratory



Purification Laboratory



Lyophilization Laboratory



Mass Spectrometry Laboratory



Biotechnology Laboratory



Liquid Chromatography Laboratory



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