Eurogentec
Experience true partnership

ANASPEC Peptides

For Life Science Research

- **Custom peptides**
- **Quantified** peptides
- **Heavy isotope** labelled peptides
- **FRET** peptides
- **Cyclic** peptides
- Peptide-oligo **conjugates**
- **Catalogue** peptides

25 YEARS OF PEPTIDE ENGINEERING

AnaSpec, a subsidiary of Eurogentec, has a long-standing peptide expertise during which it has consistently provided reliable products and services for the global Life Science research community, and striven to meet the most stringent expectations for quality, delivery timelines, and technical support.

CUSTOM & CATALOGUE PEPTIDE INNOVATION

The development of diverse peptide synthesis platforms allows for the production of complex peptides.

We exclusively synthesise our peptides chemically, which is why our peptides are free from components of animal origin.

AnaSpec catalogue peptides are specially categorised for quick recognition of peptides that fit your research needs.

TRUSTED QUALITY

Ranked high by our customers for product quality, we work hard to ensure our products and services meet your expectations for identity, purity,
and delivery time.

Specialising in **complex** peptides such as hydrophobic peptides, or those with multiple modifications

1mg **to gram** quantities

Technical **support** that can guide you all the way from quotation to delivery

ISO 9001 **certified quality system**

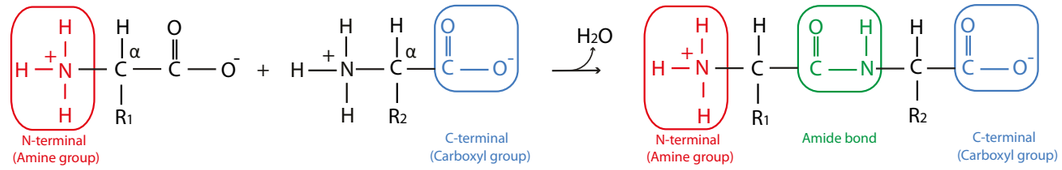
AnaSpec peptides

Custom | Catalogue

ANATOMY OF A PEPTIDE

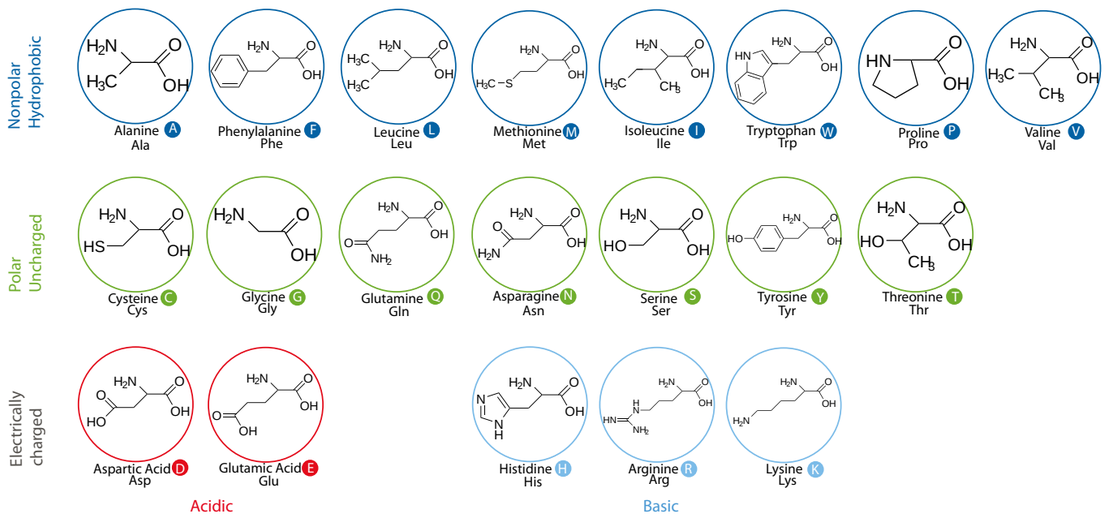
Peptides are vital to every living cell of the body and possess a variety of biochemical activities. They can function as enzyme modulators, hormones, antibiotics, and receptors. Under or over expression of certain peptides can play a role in specific disease states such as Diabetes, Cardiovascular diseases, and Alzheimer's disease. Examples of well known peptides include insulin and endorphins.

A peptide is a short polymer of amino acids linked together by peptide bonds also known as amide bonds (CO-NH bond). The peptide is formed when the carboxyl group of one amino acid reacts with the amine group of another amino acid in a dehydration reaction. The resultant peptide carries an amine group at the N-terminus and a carboxyl group at the C-terminus. AnaSpec can synthetically produce complex peptides, incorporating any of the 20 standard amino acids or other unnatural amino acids (UAADs) (glycosylated, azide containing, methylated, etc). Additionally we can engineer structural modifications, such as cyclisations.



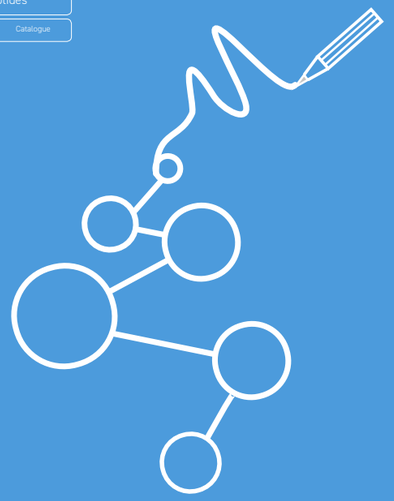
THE 20 STANDARD AMINO ACIDS

The 20 standard amino acids are "proteinogenic" meaning they are naturally genetically encoded and can be incorporated into proteins during translation. In contrast, unnatural amino acids are "non-proteinogenic" because they are not encoded genetically, or incorporated during translation.
Each amino acid carries a unique **R** group that renders it with specific chemical properties. In turn, the amino acids in a peptide sequence dictate the peptide properties such as hydrophobicity, solubility, and charge. **L** amino acids are the natural form (designated by upper case letters), and **D** amino acids are the unnatural form (designated by lower case letters). ■



AnaSpec peptides

Custom | Catalogue



Custom
peptides

Our peptide engineers are capable of optimising your peptides by leveraging a vast degree of expertise in chemical peptide synthesis gained through our >20 years of experience, customer collaborations, and stringent quality standards. We also know that confidentiality is important to you, and will treat your project and data with the utmost care and security. ■

STANDARD PEPTIDES

We offer a versatile platform for the synthesis of custom peptides (simple and complex modifications), which cater to several applications including drug discovery research.

Both solid phase and liquid phase syntheses are employed. The fundamental premise of solid phase synthesis involves the incorporation of N-α-amino acids into a peptide of the desired sequence with one end of the sequence remaining attached to a solid support matrix. While the peptide is being synthesised usually by stepwise methods, all soluble reagents can be removed from the peptide-solid support matrix by filtration and washed away at the end of each amino acid coupling step. After the desired sequence of amino acids has been obtained, the peptide is cleaved from the polymeric support. Additional liquid phase synthesis can be employed depending on the type of modification(s) requested on the peptide.■

SPECIFICATIONS

Length: 2-60 amino acids.

Purity: >95%, >90%, >85%, >70%, or crude.
Tip: Purity is assessed by HPLC analysis, and indicates the % of the target peptide in the peptidic mix.

Quantity: 1mg minimum to gram quantities (0.5mg available for specified modifications)
Quantity can be delivered as gross weight or net weight.
When absolute quantification is a must, we recommend our Quant-peptides (see p.10). For less stringent requirements, we offer peptide content based on CHN analysis.

Counter-Ion:
Default is TFA (Trifluoroacetic Acid) which binds to the peptide N-terminus, and to basic Lys, Arg and His residues. As TFA can be toxic to cells and animals, we also offer an acetate or chloride salt exchange for an additional fee.

QC Testing:
- Mass Spec Analysis
- % Purity by HPLC, additional testing upon request
- Water content
- CHN Analysis

Inquire for custom analysis

Documentation: Mass Spec and HPLC chromatographs, technical data sheet.

Format: Lyophilised powder, peptide in solution on request. For special format aliquots see Dispensing Service (p. 29)

Shipping:
Ambient temperature.

Lead Time: 3-5 weeks. Highly modified peptides may require longer production times.

DID YOU KNOW?

What is the difference between Net peptide amount, Gross peptide amount, and which does a Quant-Peptide offer?
The industry standard is to deliver peptides in a lyophilised form and to state the delivery amount as the weight of the lyophilised powder "Gross weight". But beside the peptide of interest, the production mix contains other peptidic entities such as truncated peptide forms, deprotected peptides or incomplete peptide sequences. All together these peptidic molecules form the "peptide content".

The gross weight, in addition to the peptidic weight, contains and is largely influenced by other components such as residual solvent, water and the TFA counter-ion whose molecular mass is high (114Da). Hence TFA which binds to the free N-terminus of the peptide as well as to the basic residues, significantly contributes to the **gross weight** of the lyophilised material.

Therefore when ordering 1 mg of peptide, you will receive 1 mg of powder which may contain 60-80% peptide. The **net peptide content** (NPC) is the fraction of peptidic material present in the lyophilised material. In combination with the peptide purity, it allows to determine the exact amount of the peptide of interest. NPC is traditionally measured by amino acid analysis (AAA; limited accuracy but requires a low material amount) or elemental analysis (CHN; requires milligrams of peptide but is more accurate). Both methods measure total peptidic content.

Eurogentec's Quant-Peptides correspond to two proprietary peptide quantitation methods (with and without Quant-Tag), offering net peptide content with better accuracy and reproducibility than AAA or CHN. See p.10 for more information on the Quant-Peptides.

What does "H" or "OH" signify at the ends of my peptide?
These shorthand terms can be used when the peptide sequence is indicated using either the 3-letter or 1-letter amino acid code.
"H" at the left end N-terminus is shorthand for NH_2 and indicates a free amine. "OH" at the right end C-terminus is shorthand for COOH, and indicates a free carboxyl group.

For example:
H-Lys-Ala-Glu-OH is the same as NH_2-Lys-Ala-Glu-COOH
If your peptide is capped, an "Ac" at the N-terminus indicates a CH_3-CONH acetylation, while "NH_2" at the C-terminus is shorthand for a $CONH_2$ and indicates an amidation.

Will a charge at the N or C terminus of your peptide interfere with your application or conjugation?
We can "cap" the peptide N-terminus (Acetylation) or C-terminus (Amidation). This process can also help to better mimic the characteristics of a sequence within a protein.

PURITY VS APPLICATIONS

RECOMMENDED PURITY LEVEL	APPLICATIONS
≥ 90-95%	Blocking and competition assays Enzyme-substrate studies (quantitative) Receptor-ligand interaction studies (quantitative) ELISA and RIA (quantitative) *in vivo*/*in vitro* studies **High precision quantitative** proteomics (see Quant-Peptides p.10)
≥ 80 - 85%	Western blotting studies (non-quantitative) Enzyme-substrate studies (non-quantitative) Phosphorylation studies Affinity purification
≥ 70%	Production of antibodies for immunisations Determination of the titer of antibodies in standard ELISA
crude	Screening purposes

Modifications

Peptide modification feasibility is dependent on the peptide sequence, properties and desired location. Hence, our technical team will review each request case by case.
Modifications can be of the following types:

> N-terminal
> C-terminal
> Structural
> Conjugation
> UAAD

Unnatural Amino Acid (UAADs) can be exploited to enhance the stability, or functionality of a therapeutic target, and can be site specifically incorporated into your synthetic custom peptides. Examples include post-translational modifications such as the carboxylation of glutamate (forming the UAA- gamma-carboxy glutamate), and hydroxylation of proline (forming the UAA-hydroxyproline). ■

TABLE: MODIFICATIONS CLASSIFICATION

N-Terminal	C-Terminal	Structural	Conjugation	UAAD	Other
Acetylation (caps charge)	Amidation (caps charge)	Cyclisation	DOTA	Alkyne	Pegylations
Biotinylation	Biotinylation	Disulfide formation	BSA	Azide	Peptidomimetics
Fluorescent-dye	Fluorescent-dye	Hydrocarbon stapling	Prenylation	Glycosylated	
Formylation	Aldehydes (formylation)	Lactamation	Farnesylation	Heavy Isotope	
Myristoylation	Alcohol group	MAP formations	Geranylation	Methylations	
Succinylation	Hydrazide	Thiolactonation	Peptide-oligonucleotide	Phosphorylation	
Bromoacetylation	Esterification/thiol esters			Sulfonation	
DOTA conjugated	N-alkyl amidation				
	Ketones (CMK, FMK)				

MODIFICATIONS VS APPLICATIONS

APPLICATIONS	Immunology-related studies	Protease activity /inhibitions	Protein folding and aggregation studies	Protein-protein interactions, membrane-transport/ function, signal transduction etc.	Drug delivery, cellular uptake, PK properties, bioactivity, conjugations etc.
RELATED MODIFICATIONS	Biotinylation Formylation Pegylation MAPS KLH/BSA conjugation	Alkylamidation Thiolation FRET-based assays	Glycosylation Cysteamidation	Myristoylation Phosphorylation Peptidomimetics Sulfonation	Prenylation Farnesylation Geranylation Methylation Cyclization Br-acetylation Succinylation Stapling

QUANT-PEPTIDES

Eurogentec exclusively offers 2 proprietary methods that are employed to measure the net peptide content of a target peptide in a peptide mixture. ■

When vial to vial reproducibility or net peptide quantity per vial is required, quant-peptides can be dispensed using our dispensing service. For quant-peptides, we can offer up to 100 aliquots/mg. Our service is performed in a controlled environment to ensure reproducibility and accuracy.
(see p. 29)

APPLICATIONS

Quant-Peptides are accurately quantified for use as standards in high precision proteomics, such as in biomarker detection.

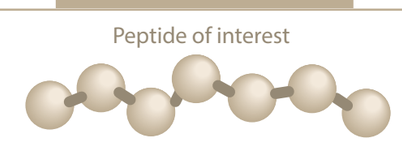
BENEFITS

- More accurately quantified than by AAA or CHN analysis
- Precise net peptide quantity in every vial (vial to vial consistency)
- Convenient ready-to-use aliquots

SPECIFICATIONS

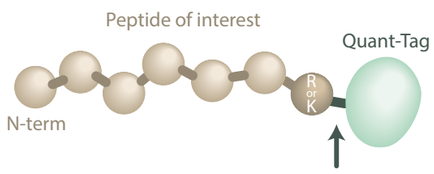
Light or heavy-isotope labelled peptides
Purity: >85 to >95%
Minimum order amount: 0.5 mg

Untagged Peptide



This option applies to peptides containing at least 2 of the following amino acids: F, I, K, L, P, R, V.
This Quant-peptide quantification is based on an optimised AAA-MS method. The peptide is hydrolysed in acidic condition and the AAs is resolved individually (not derivatised) by HPLC-MS.

Tagged peptide



This option is recommended for peptides that do not contain internal K, R or C residues, but do contain a C-terminal R or K. Quant-peptides with a Quant-Tag contain a proprietary tag with spectral properties. The Quant-Tag is coupled to the C-term of the peptide via an Arginine (R) or Lysine (K) residue and can be released by trypsin digestion. The precise molecular mass of the tag (1356,7 Da) can be used in assessing the trypsine cleavage efficacy of a sample and hence in setting the optimal trypsinisation conditions of a sample using i.e. MS:MS methods.

HEAVY ISOTOPE-LABELLED PEPTIDES

APPLICATIONS

The use of mass spectrometry (MS) has helped advance proteomic research by providing qualitative information of thousands of known and unknown proteins. By spiking protein tryptic digests with internal heavy isotope labelled peptide standards, MS becomes an absolute quantitation method. These peptides are offered in gross quantities, or quantified using standard CHN analysis or the quant-peptide method.

BENEFITS

Our heavy isotope-labelled custom peptide services offer a choice of heavy hydrogen (^{2}H), carbon (^{13}C), or nitrogen (^{15}N)-isotopes specifically labelled at single, multiple or universal positions. We can increase your peptide mass by several daltons according to your specifications.

SPECIFICATIONS

Molecular Mass Increase: 1 or more daltons over mass of unlabelled peptide
Purity: >85 to >95%
Minimum order amount: 0.5 mg

ALSO AVAILABLE

Peptide Mass Spec Standards AS-60882

This kit consists of two calibration mixtures for calibrating mass scale in MALDI-TOF or ESI mass spectrometry (range from 800 to 3800 daltons). ■

PEPTIDE-OLIGONUCLEOTIDE CONJUGATES

Peptide-oligonucleotide conjugates (POC) are molecular composites containing a nucleic acid moiety covalently linked to a polypeptide moiety. They serve many important roles as potential therapeutics and owing to their stability, can resist intracellular enzymes present in different cellular compartments. ■

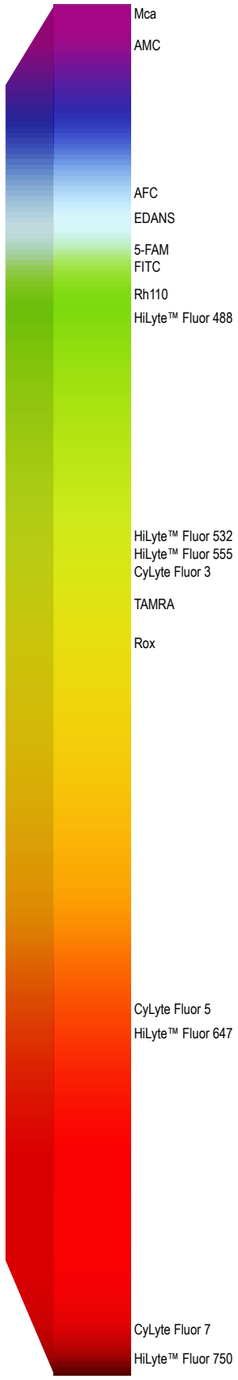
SPECIFICATIONS

Production quantities	1-20 mg
Typical lead times	5-6 weeks
Peptide length	5-22 amino acids
Oligonucleotide length	10 - 40 bases
Oligonucleotide modifications available	Phosphorothioate linkage Dye labelling (FAM, HEX ,TET, etc) Biotinylation Spacer (C3, HEG, etc)
Peptide modifications available	Acetylation Dye-Labelling (FAM, TAMRA)
QC Analysis	Mass Spectrometry

APPLICATIONS

> Oligo therapeutic target via conjugation to a cell permeable peptide, which acts as a cargo carrier of the oligonucleotide.

> Peptide conjugations to oligos with modifications designed for varied functionalities/applications.



FLUORESCENT LABELLED PEPTIDES

Fluorescent labels

We are pleased to support the scientific community by producing a broad range of premium classical and HiLyte™ fluorescent dyes for labelling and detection. These dyes are widely used to modify amino acids, peptides, proteins (in particular antibodies), oligonucleotides, nucleic acids, carbohydrates etc, and to detect cellular organelles and molecules. By spanning the whole visible and near infrared spectrum, you are sure to find a dye to suit your specific custom peptide application.

Classical dyes such as FAM, TAMRA and the CyLyte Fluor are a great cost effective choice when operational pH range of your application is flexible. HiLyte™ Fluor dyes are not affected by pH, making them an ideal choice when your application requires fluoresent detection at high or low pH (4-11). Owing to their enhanced intensity and photostability, these dyes also exhibit higher sensitivities. QXL® containing FRET substrates can offer fast and easy detection/HTS of protease activity/activators and inhibitors. These substrates are more sensitive than chromogenic substrates with linear dynamic range and great reproducibility. Our line of QXL® quenchers match the most commonly used fluorescent donors and cover the full spectrum. ■

BENEFITS

- Span the full visible and near infrared spectrum
- Available in a variety of reactive forms
- Can be paired with our proprietary QXL® Quenchers for FRET

GOOD TO KNOW

CyLyte Fluor are cost effective fluorescent dyes. They have the same organic structures as those of Cy® Dyes. CyLyte Fluor 3, CyLyte Fluor 5 and CyLyte Fluor 7 are available in two reactive forms (acid & NHS Ester). Cyanines are suitable for molecule labelling such as soluble proteins, antibodies, peptides, oligonucleotides, DNA and small molecules widely used in imaging, immunocytochemistry, flow cytometry and FRET applications. ■

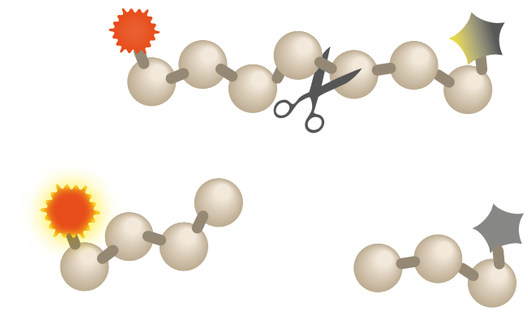
ORDERING INFORMATION

PRODUCT NAME	abs/em (nm)	CAT#						
		Hydrazide	Succinimidyl ester (SE)	Acid	Amine	C2 Maleimide	Hydroxylamine	NHS ester
HiLyte™ Fluor 488	497/525	AS-81163	AS-81161-1	AS-81160	AS-81162[1]	AS-81164	AS-64348[2]	/
HiLyte™ Fluor 532	545/565	AS-89343	AS-89341	AS-89340	AS-89344	AS-89342	/	/
HiLyte™ Fluor 555	550/566	/	AS-81251	AS-81250	AS-81252	AS-81254-	/	/
HiLyte™ Fluor 647	650/675	/	AS-81256	AS-81255	AS-81257	AS-81259	/	/
HiLyte™ Fluor 750	753/778	AS-81268	AS-81266	/	AS-81267	AS-81269	/	/
CyLyte Fluor 3	550/564	/	/	AS-89353	/	/	/	AS-89356
CyLyte Fluor 5	648/663	/	/	AS-89354	/	/	/	AS-89357
CyLyte Fluor 7	750/773	/	/	AS-89355	/	/	/	AS-89358

[1] TFA salt
[2] HCl salt *single isomer*

FRET substrates

FRET (fluorescence resonance energy transfer) based assays have found broad applications, one of which is the detection of protease activity. As a world leader in FRET peptide technology we are proud to offer the same variety of long wavelength quencher and dye pairings used in our ID SensoLyte line of Protease activity assay kits. Our FRET pairs can be utilised in drug discovery, enabling extensive detection of protease activity to be faster, easier and compatible with HTS. FRET occurs between a peptide tagged to a donor and an acceptor when placed within 10-100Å of each other resulting in the donor's excitation fluorescence to be quenched by the acceptor. Enzymatic hydrolysis of the peptide results in recovery of the donor fluorescence following spatial separation of the donor and acceptor upon energy transfer. ■



ALSO AVAILABLE

Catalogue FRET-peptides

Combining our expertise in peptides and detection reagents synthesis, we are pleased to offer our unique collection of FRET peptides, which includes the following selection.

SELECTION	
Product	**CAT #**
390 MMP FRET Substrate I Mca - PLGL - Dpa - AR - NH2	AS-27076
390 MMP FRET Substrate II Mca - PLGL - Dpa – AR	AS-27079
520 MMP FRET Substrate IX QXL® 520 - RPLALWRK(5 - FAM) - NH2	AS-60576-01
Bacterial Sortase Substrate I, FRET DABCYL - LPETG - EDANS	AS-62231
Cathepsin D and E FRET Substrate Mca - GKPILFFRLK(Dnp) - r - NH2	AS-61793
Cls Substrate, C2 (5 - FAM/ QXL® 520) 5 - FAM - SLGRKIQIQ - K(QXL® 520) - NH2	AS-61314
HCV (Hepatitis C Virus) NS3/4A Protease Substrate Ac - DE - Dap(QXL® 520) - EE - Abu - ψ - [COO] AS - C(5 - FAMsp) - NH2	AS-60798
HIV Protease FRET Substrate I DABCYL - GABA - Ser - Gln - Asn - Tyr - Pro - Ile - Val - Gln - EDANS	AS-22992
Renin FRET Substrate I DABCYL-GABA-Ile-His-Pro-Phe-His-Leu-Val-Ile-His-Thr-EDANS	AS-24478

For a complete listing visit **www.eurogentec.com**

APPLICATIONS

HTS detection of protease activity, protease activators and inhibitors.

Protease based drug target screening and discovery protein-peptide interaction.

Peptides with a dye-quencher pair

Dye	Ex/Em	Quencher
MCA	325/393 nm	Dnp
EDANS	335/493 nm	DABCYL, DABCYL Plus™, QXL® 490
FAM	492/518 nm	QXL®520
FITC	494/519 nm	QXL®520
HiLyte™ Fluor 488	502/527 nm	QXL®520
CyLyte Fluor 3	550/564nm	QXL®570
HiLyte™ Fluor 532	545/565 nm	QXL®570
HiLyte™ Fluor 555	550/566 nm	QXL®570
TAMRA	541/568 nm	QXL®570
Rox	568/591 nm	QXL®610
CyLyte Fluor 5	648/663 nm	QXL®670
HiLyte™ Fluor 647	650/675 nm	QXL®670
CyLyte Fluor 7	750/773 nm	IR-QXL®

Specifications for FRET peptides

Length: 8-10 amino acids between dye and quencher
Location: N/C-terminal and internal labelling
Quantity: 1-200mg
Purity: 90-95%

Fluorescent Tag

All dyes listed in FRET substrate table can also be used as stand-alone Fluorescent tag.

Specifications

Dye location:
N/C terminal or internal labelling

APPLICATIONS

- 2-photon/confocal microscopy
- Flow cytometry
- *In-vivo* imaging
- Used in making tandem conjugates with fluorescent proteins.

Fluorogenic substrates

APPLICATIONS

Fluorogenic substrates do not require a quencher, and contain a C-terminal dye that does not fluoresce until it is cleaved from the peptide (fluorescent form of dye is released).

Peptides with a dye-quencher pair

Dye	Ex/Em
AMC	351/430 nm
AFC	382/480 nm
Rh110	501/527 nm

Certificates of Analysis

Protein CoA Includes
- Spectral properties
- DOS: represents the amount of fluorophore molecules conjugated to one protein molecule
- Formulation, buffer composition
- Amount and concentration
- Optimal storage conditions

Peptide CoA Includes
- Lyophilised peptide:
- Mass Spec analysis
- HPLC analysis for purity
- Amount
- Liquid formulations also include:
- Concentration
- Spectral properties
- Optimal storage conditions

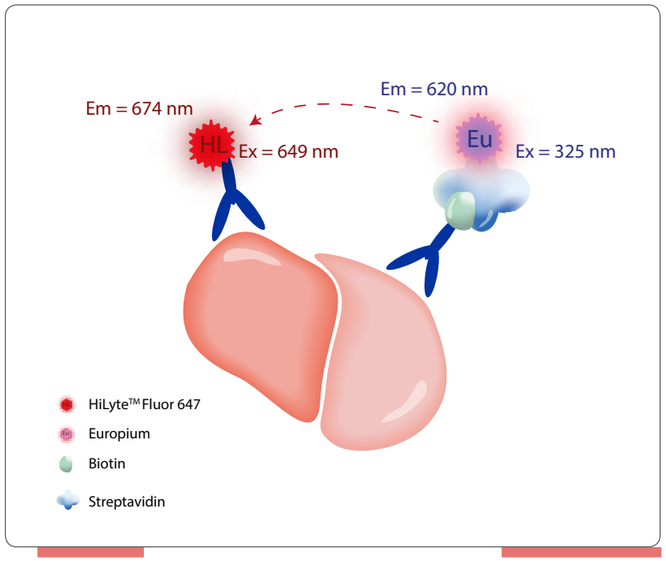
ALSO AVAILABLE

Additional labels

Aminoluciferin
(Bioluminescent Substrate)
PNA
(Chromogenic Substrate)

TR-FRET

TR-FRET is a combination of Time Resolved Fluorescence (TRF) and Forster's Resonance Energy Transfer (FRET) technologies. This method offers the advantages of reducing background noise and providing a higher sensitivity and reliability than the FRET method. In TR-FRET instead of a fluorescent dye, the donor molecule is a Lanthanide metal such as Terbium (Tb) and Europium (EU). Their fluorescence is long-lived and is characterised by a large stokes shift providing a high signal-to-noise ratio due to minimal crosstalk between excitation and emission wavelengths. ■



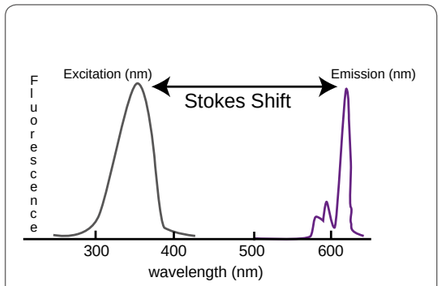


Fig 1. Stokes shift absorption and emission peaks for Europium.
Stokes shift is the difference between the absorption peak and the emission peak for fluorophores. Larger Stokes shift is always preferred which allows the use of broad excitation and emission filters that do not overlap, which in turn increases brightness and sensitivity. Fluorescent probes of smaller Stokes shift require filters that are very close together and do not include the entire area of the curves, thus reducing efficiency and brightness.

BENEFITS

> Ideal for HTS
> Large dynamic range
> High sensitivity
> Low interference

ASSAY DESIGN & DEVELOPMENT

> Preparation of substrates labelled with Europium and/or HiLyte™ Fluor 647
> Validation of assay with inhibitor(s) or biological compounds
> Detailed step by step assay protocol.

APPLICATIONS

> FRET/TR-FRET substrates for protease activity detection
> Protease based drug target screening and discovery
> Protein-peptide interaction
> Protein-protein interaction

TR-FRET pair

Donor	Ex/Em	Acceptor
Europium chelate	325/620 nm	HiLyte™ Fluor 647
Europium chelate	325/620 nm	CyLyte Fluor 5

GOOD TO KNOW

Typically biological samples generate fluorescence (proteins, antibodies, cells or tissues) that can interfere with the assay observations and therefore decrease the assay sensitivity.

TR (time-resolved) based assay technologies eliminate the background by choosing a longer detection interval after excitation, therefore increasing the assay sensitivity.

LABELLING KITS

AnaTag™ protein labelling kits

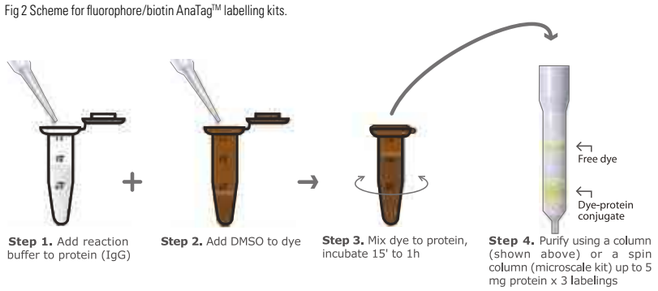
AnaTag™ kits provide a convenient way to label your proteins, such as those used as reagents in immunofluoresence staining, fluorescence *in situ* hybridisation, flow cytometry and other biological applications.
The kits use succinimidine ester (NHS ester) conjugates, which react with the amine groups of the target protein to form stable carboxamide bonds. Please note that AnaTag™ are not convenient to label peptides.

Note: APC, B-PE, and R-PE fluorescent protein kits, make use of an SMCC conjugation method.

BENEFITS

> FAST labelling
> STABLE dye-protein conjugations
> CONVENIENT format
> All ESSENTIAL components for conjugation reactions and purification of dye-protein conjugates available.

Fig 2 Scheme for fluorophore/biotin AnaTag™ labelling kits.



Step 1. Add reaction buffer to protein (IgG)
Step 2. Add DMSO to dye
Step 3. Mix dye to protein, incubate 15' to 1h
Step 4. Purify using a column (shown above) or a spin column (microscale kit) up to 5 mg protein x 3 labelings

ORDERING INFORMATION

Label	Abs/Em (nm)	Catalogue # REACTION SIZE 3 x 5 mg	Catalogue # REACTION SIZE 3 x 200 µg
FLUOROPHORES			
AMCA-X	353/442	AS-72055	AS-72056
5-FITC	494/519	AS-72059	AS-72060
HiLyte™ Fluor 488	502/527	AS-72047	AS-72048
5 TAMRA	547/574	AS-72063	AS-72064
HiLyte™ Fluor 555	552/569	AS-72045	AS-72046
HiLyte™ Fluor 647	649/674	AS-72049	AS-72050
HiLyte™ Fluor 750	754/778	AS-72043	AS-72044
FLUORESCENT PROTEINS			
APC	650/660	AS-72111 (1x1mg)	n.a.
B-PE	545/575	AS-72112 (1x1mg)	n.a.
R-PE	565/575	AS-72113 (1x1mg)	n.a.
BIOTIN			
Biotin	n.a.	AS-72057 (3x10mg)	AS-72058
Europium chelate	AnaTag™ Europium Protein Labelling Kit	325/620 nm	AS-72246
Europium chelate & HiLyte™ Fluor 647	AnaTag™ Protein labelling kit for TR-FRET	Eu: 325/620 nm HL 647: 649/674 nm	AS-72247

CYCLIC CUSTOM PEPTIDES

AnaSpec offers a versatile platform for synthesis of cyclic and constrained peptides including disulfide bridged peptides, N>C cyclisations, hydrocarbon stapling, and specialised modifications such as lactamations, etc. We also offer a selection of cyclic catalogue peptides for your research needs. ■

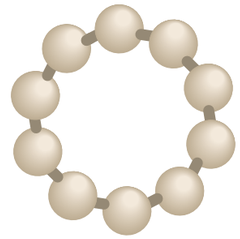
BENEFITS

- Enhanced conformational stability
- Mimicking secondary conformations

Specifications for cyclic peptides

Length: 5-11 amino acids
Type: Head-to-Tail (N>C)
Side Chain to head or tail (N/C)
Side Chain to side chain
Quantity: 1-200mg
Purity: 90-95%

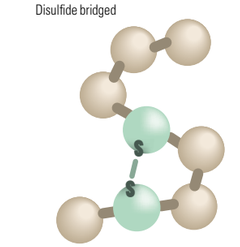
Macrocyclic peptides



Specifications for disulfide bridging

Length: 1-2 disulfides
3-5 disulfides formed naturally (thermodynamically stable)
Quantity: 1-200mg
Purity: 90-95%

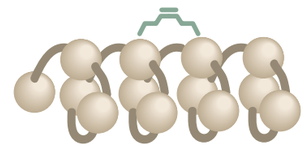
Disulfide bridged



Specifications for stapling

Location/turns:
i, i+3, i+4, i+7 etc.
Single or double or triple turn stapling positions, as determined by customer
Quantity: 1-200/300mg
Purity: 90-95%

Hydrocarbon stapling



POTENTIAL APPLICATIONS

- Stabilisation of secondary conformations
- Improved binding affinity to targets
- Modulation/disruption of protein-protein interactions (PPI)
- Modulation/disruption of proteases
- Membrane permeability
- Metabolic stability & bioavailability
- Bioactivity
- Serve as structurally engineered models for designing drugs/probing disease mechanisms at target sites
- Generation and screening of libraries of disulfide-based macrocyclic ligands towards target affinities. *Eg.* RGD sequence motifs.

PEPTIDE LIBRARIES

Eurogentec offers custom peptide libraries, available with several modifications, in a 96-well plate format for high-throughput screening purpose. ■

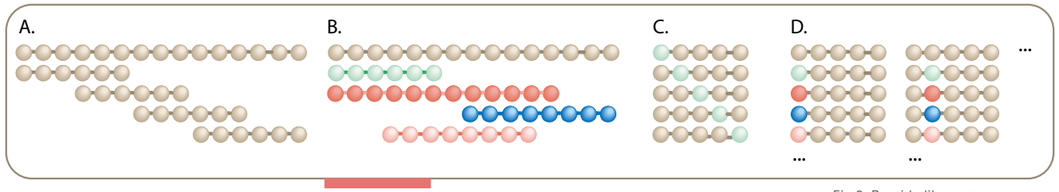


Fig 3. Peptide library type

A. **Overlapping peptide** sequences which are based on a larger protein sequence (peptide length and number of amino acid overlap must be provided).

B. **Unrelated peptides** of different lengths.

C. **Alanine scanning** where each amino acid position of the peptide is replaced with alanine.

D. **Degenerated Mix** where at position X, a mixture of amino acids is used for coupling (customer specifies amino acids and %). The resulting peptides are mixtures, therefore not purifiable.

BENEFITS

- Superior technical design assistance upon request
- Peptide lengths as long as 22-mers
- Modifications such as fluorescent labelling or biotinylation
- Cost effective

Specifications

Quantity: 200 - 500 µg of each peptide (up to 10 mg on request) - Minimum 24 peptides
Format: 96-well
Type: Unbound, free crude peptides - Amino N-terminus- $CONH_2$ C-terminus by default (COOH on request for additional fee)
Length: 5-22 amino acids
QC validation: MALDI-TOF QC on 10% of peptides

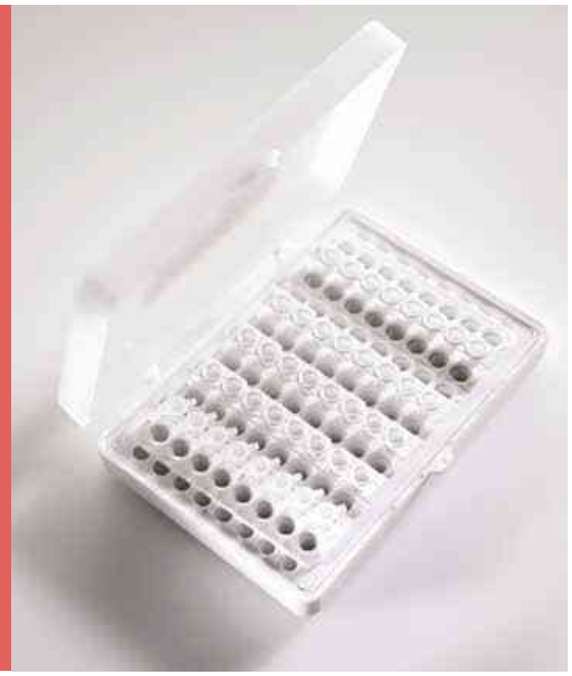
APPLICATIONS

Epitope mapping
Epitopes recognised by antibodies are commonly 6 amino acids in length. By generating overlapping 15 mer peptides, each shifted by 4 amino acids, one can unequivocally determine which amino acids make up the epitope (fig. 3 A). Eurogentec proposes this service (see Epitope Mapping in the Eurogentec Antibodies brochure).

T-Cell stimulation
Libraries can also be generated to see which particular peptide from an antigenic protein is responsible for a T-cell response. The design process is similar to the epitope mapping example above.

Alanine scanning
By screening peptides with systematic replacement of each amino acid with alanine, one can determine to which extent a particular amino acid is required and sufficient for an interaction or an activity (fig 3 C).

Amino Acid optimisation
By systematically replacing every amino acid position in a peptide with each possible amino acid, one can optimise the activity of a particular peptide sequence (fig 3 D).
- Protein-protein and protein-peptide interaction studies
- Kinase motif discovery
- Protease motif discovery
- Biological Assays



AnaSpec peptides
Custom | Catalogue

AnaSpec Catalogue peptides

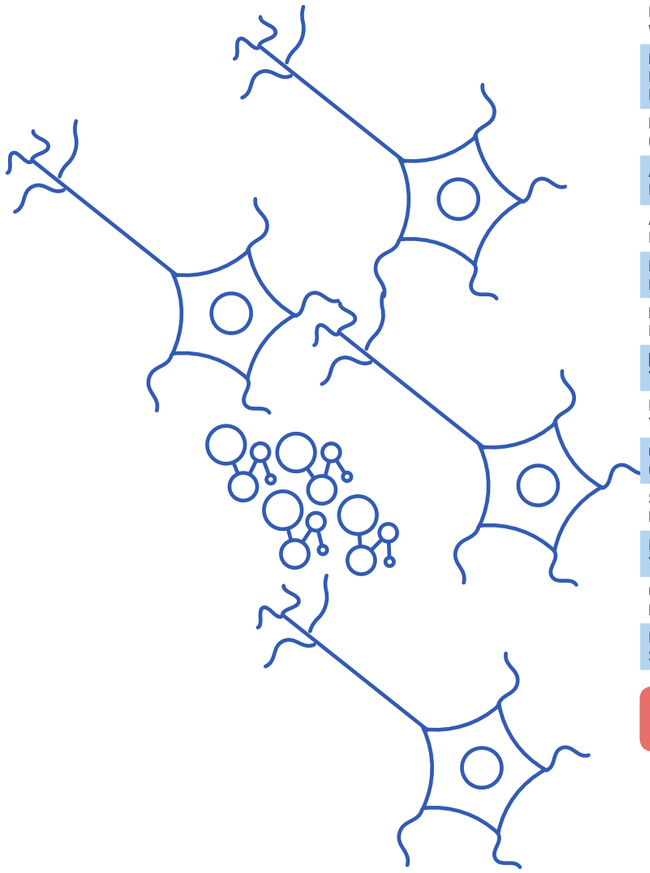
Our catalogue peptides represent over 20 years of innovative peptide synthesis expertise. AnaSpec is able to provide peptides in inventory and ready for immediate shipment.
Can't find a peptide? Request a Quote. ■

PEPTIDE GROUPS BY RESEARCH TOPIC

- Neuroscience
- Cell permeable & Cell penetrating
- Cardiovascular
- Host defence
- Diabetes
- Epigenetics
- Cancer and apoptosis
- Peptide hormones
- Cell adhesion & ECM
- Signalling
- Peptide analysis

NEUROSCIENCE

The role of peptides in the pathological states of brain tissue in the context of neurodegenerative diseases has sparked enormous interest in research and development, particularly with beta-amyloid peptides and Alzheimer's disease.
We are proud to feature the largest group of beta-amyloid peptides along with other peptides involved in neuroscience diseases such as Multiple Sclerosis, Parkinson's Disease, etc. Our neuroscience peptides also include opioïds and neuropeptides. Readily available to order, these peptides have been used by a large number of scientists and drug developers.



SELECTION OF PEPTIDES

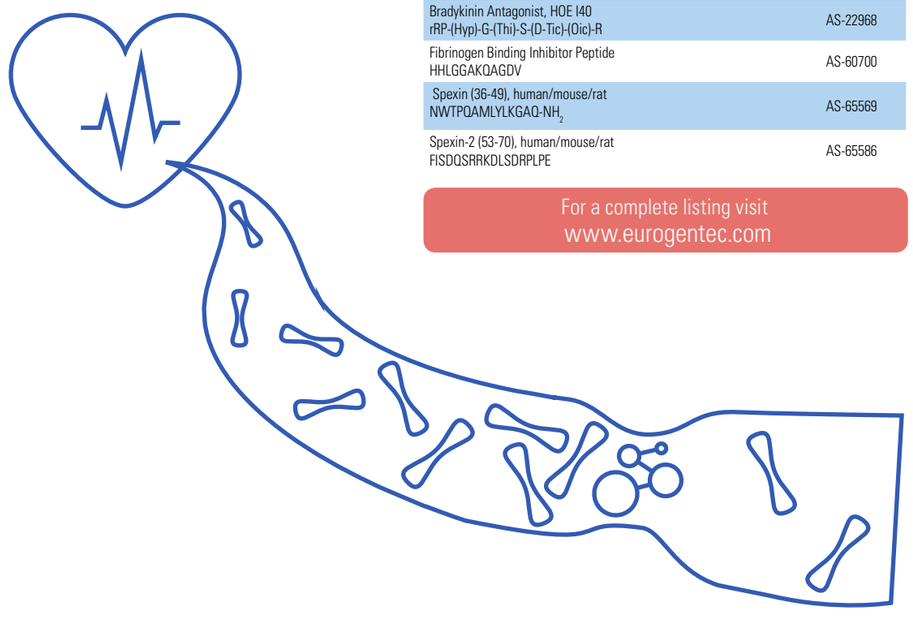
PRODUCT & SEQUENCE	CAT. #
Beta-Amyloid (1-42) DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIA	AS-20276
Beta-Amyloid (1-42), HiLyte™ Fluor647-labelled HiLyte™ Fluor 647-DAEFRHDSGYEVHHQKLVFFAEDV GSNKGAIIGLMVGGVVIA	AS-64161
Beta-Amyloid (1-42) • HFIP DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIA	AS-64129-1
Biotin-beta-Amyloid (1-42) Biotin-DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIA	AS-23524-01
Beta-Amyloid (1-40) DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVV	AS-24236
Cys-beta-Amyloid (1-40) CDAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVV	AS-23520
Beta-Amyloid (1-40), HiLyte™ Fluor 488-labelled HiLyte™ Fluor 488-DAEFRHDSGYEVHHQKLVFFAED VGSNKGAIIGLMVGGVV	AS-60491-01
Beta-Amyloid (1-40)-Lys(Biotin)-NH_2 DAEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVV-K(Biotin)-NH_2	AS-61483-05
Beta-Amyloid (25-35) GSNKGAIIGLM	AS-24228
Amyloid Bri (1-23) EASNCFAIRHFENKFAVETLICS	AS-65579
Amyloid Bri (1-34) EASNCFAIRHFENKFAVETLICSRTVKKNIIEEN	AS-65580
MOG (35-55), mouse, rat MEVGWYRSPFSRVVHLYRNGK	AS-60130-1
PLP (139-151) HCLGKWLGHPDKF	AS-63912
[Leu5]-Enkephalin YGGFL	AS-24333
Dynorphin A (1-17) YGGFLRRIRPKLKWDNQ	AS-24297
Galanin, human GWTLNSAGYLLGPHAVGNHRSFSDKNGLTS	AS-22431
Substance P RPKPQQFFGLM-NH_2	AS-24279
Neuropeptide Y, human, rat YPSKPDNPGEDAPAEDMARYYSALRHYINLITRQRY-NH_2	AS-22464
Orexin B, human RSGPPGLQGRLQRLLQASGNHAAGILTM	AS-65573
Neurogranin (48-76), human SGERGRKGPGPGGPGGAGVARGGAGGGPS	AS-65575

For a complete listing visit
www.eurogentec.com

CARDIOVASCULAR

The cardiovascular system, comprising of and regulated by a complex network of molecules, also includes unique peptide systems involved in the regulation of processes governing cardiac health. These peptides are known to play important roles specifically involving the two major pathways, the coagulation and the renin-angiotensin pathways that govern the cardiovascular system. Owing to certain structural motifs and properties, some of the peptides function as agonists while others function as antagonists. For example, some of the protease-activated receptors modulators act as agonists in mediating cellular effects of thrombin while others function as antagonists, thereby participating in the overall regulation of thrombosis and hemostasis.

AnaSpec is proud to feature multiple cardiovascular-related peptides readily available to order.



SELECTION OF PEPTIDES

PRODUCT & SEQUENCE	CAT. #
Atrial Natriuretic Peptide (1-28), rat Sequence: SLRRSSCFGGRIDRIGAQSGLGCNSFRY (Disulfide bridge: 7-23)	AS-20652
B-type Natriuretic peptide (BNP-45), mouse SQGSTLRVQQRPQNSKVTHISSCFGHKIDRIGSVSRLGCNALKLL (Disulfide bridge:23-39)	AS-61152
Endothelin 3, human, rat, mouse, rabbit CTCFTYKDKECVYYCHLDIIW (Disulfide bridge: 1-15 and 3-11)	AS-24323
Angiotensin II, human DRVYIHPF	AS-20634
Protease-Activated Receptor-1, PAR-1 Agonist TFLLRN	AS-61530
Protease-Activated Receptor-4, PAR-4 Agonist 3, amide, murine GYPGKF-NH_2	AS-60778
ADAMTS-13 FRET Substrate, FRETS-VWF73 DRE-Dap(Nma)-APNLVYMVTG-Dap(Dnp)-PASDEIKRLPGDIQVVPIGVGP NANVQELERIGWPNAPILIQDFETLPREAPDLVLQR	AS-63728-05
Thrombospondin (TSP-1) Inhibitor, LSKL LSKL-NH_2	AS-60877
Thrombin Receptor Activator for Peptide 6 (TRAP-6) SFLLRN	AS-24190
Thrombin Substrate S2238 f-Pip-R-pNA	AS-63776
Angiotensin I Converting Enzyme 2 (ACE-2) Inhibitor, DX 600 Ac-GDYSHCSPLRYYPWWKCTYPDPEGGG-NH_2	AS-62337
Renin 390 FRET Substrate I R-E(EDANS)-IHPFHLVIHT-K(DABCYL)-R	AS-62022
[Pyr1]-Apelin-13 Pyr-RPRLSHKGPMPF-OH	AS-60833
Bradykinin Antagonist, HOE I40 rRP-(Hyp)-G-(Thi)-S-(D-Tic)-(Oic)-R	AS-22968
Fibrinogen Binding Inhibitor Peptide HHLGGAKQAGDV	AS-60700
Spexin (36-49), human/mouse/rat NWTPQAMLYLKGAQ-NH_2	AS-65569
Spexin-2 (53-70), human/mouse/rat FISDQSRRKDLSDRPLPE	AS-65586

For a complete listing visit
www.eurogentec.com

DIABETES

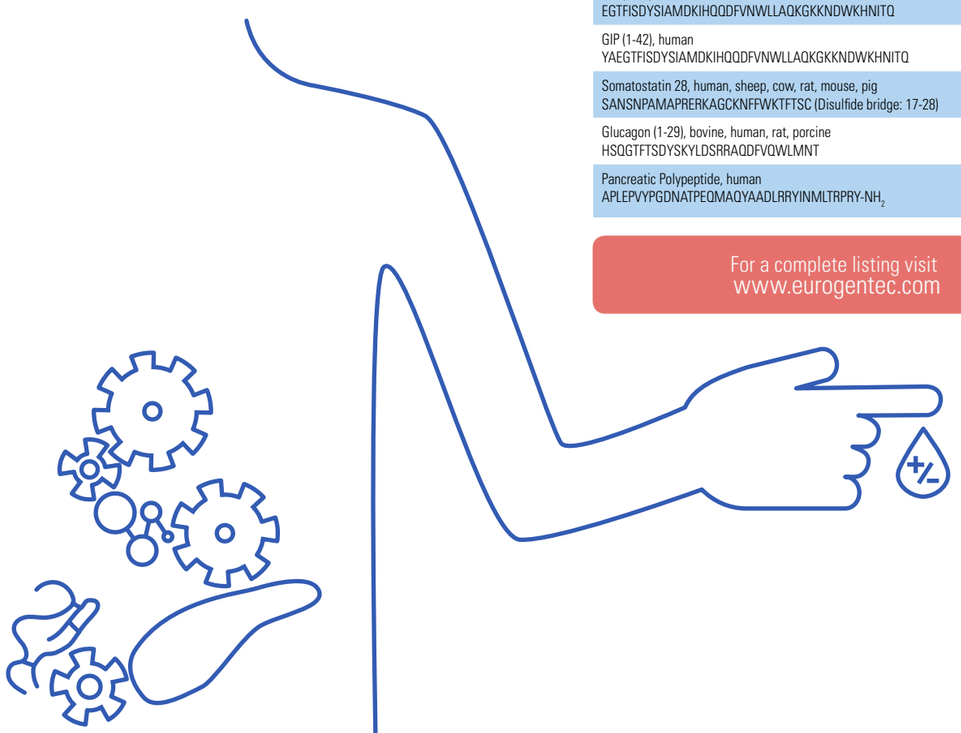
Diabetes, a metabolic disease with increasing numbers of prevalence, has attracted much research attention in identifying key regulatory molecules geared towards its prevention and management. Peptides that are secreted in response to glucose stimulus and known to act on insulin-sensitive tissues have become important therapeutic targets for effecting insulin sensitiveness. Some of the key peptides involved in the regulation of glucose metabolism include C-peptide, Glucagon-like peptides and Exendins.

We are proud to feature a group of peptides specific to diabetes that are readily available to order. The diabetes group of peptides offered elicit important roles in glucose metabolism/modulation via insulin and non-insulin signalling pathways with therapeutic potentials. ■

SELECTION OF PEPTIDES

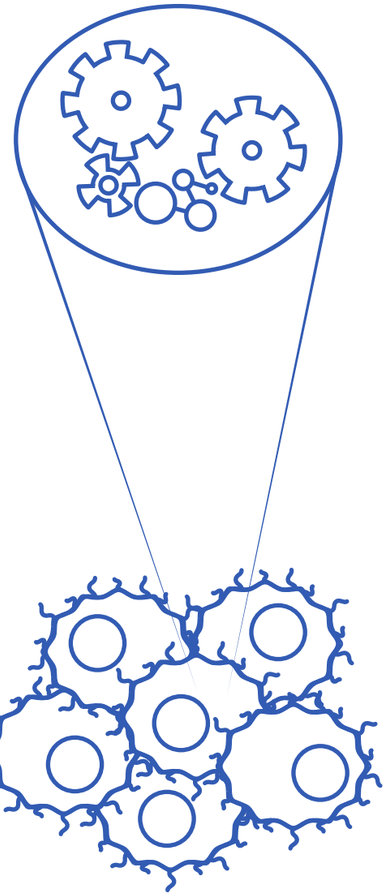
PRODUCT & SEQUENCE	CAT. #
Amylin (1-37), Islet Amyloid Polypeptide, IAPP, human KCNTATCATQRLANFLVHSSNNFGAILSSTNVGSNTY (Disulfide bridge: 2-7)	AS-60804
Amylin (1-37), Islet Amyloid Polypeptide, IAPP, human, amide KCNTATCATQRLANFLVHSSNNFGAILSSTNVGSNTY-NH_2 (Disulfide bridge: 2-7)	AS-60254-1
Amylin (1-37), human, amide, Biotin-labelled Biotin-KCNTATCATQRLANFLVHSSNNFGAILSSTNVGSNTY-NH_2 (disulfide bridge: 2-7)	AS-64451-05
BDC2.5 Mimotope RTRPLWVRME	AS-63774
Insulin B (9-23) SHLVEALYLVCGERG	AS-61532
Exendin (9-39) DLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS-NH_2	AS-24468
Exendin 4 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS-NH_2	AS-24464
Glucagon-Like Peptide 1, GLP-1 (9-36), amide, human, mouse, rat, bovine, guinea pig EGTFTSDVSSYLEGQAAKEFIAWLVKGR-NH_2	AS-65070
C-peptide (57-87), human EAEDLQVGQVELGGGPGAGSLQPLALEGSLQ	AS-61127
GIP (3-42), human EGTFISDYSIAMDKIHQQDFVNWLLAQKGKKNDWKHNITQ	AS-61227
GIP (1-42), human YAEGTFISDYSIAMDKIHQQDFVNWLLAQKGKKNDWKHNITQ	AS-61226-1
Somatostatin 28, human, sheep, cow, rat, mouse, pig SANSNPAMAPRERKAGCKNFFWKTFTSC (Disulfide bridge: 17-28)	AS-22901
Glucagon (1-29), bovine, human, rat, porcine HSQGTFTSDYSKYLDSRRAQDFVQWLMNT	AS-22457
Pancreatic Polypeptide, human APLEPVYPGDNATPEQMAQYAADLRRYINMLTRPRY-NH_2	AS-22866

For a complete listing visit
www.eurogentec.com



CANCER AND APOPTOSIS

Peptides have been used as tools to study apoptosis, and also as important regulators of this process as seen in cancer and related diseases. Synthetic peptides that can target the apoptotic signal transduction cascades and/or function as pro-apoptotic agents bearing pharmaceutical potential are being developed. Cancer cells exhibit an elevated apoptotic threshold and peptides that are able to induce apoptosis in tumor cells are increasingly seen as promising candidates for the development of new effective anticancer therapeutics.
Here we offer a list of peptides that target oncogenic/angiogenic and apoptotic pathways/mechanisms. This group includes important sets of apoptotic peptides such as the caspases, which by virtue of their apoptotic nature play important roles in cancer. As other catalogue peptides, these peptides are readily available to order, and continue to attract attention among cancer research scientists worldwide. ■



SELECTION OF PEPTIDES

PRODUCT & SEQUENCE	CAT. #
Kisspeptin-10 (Kp-10), Metastin (45-54), human YNWNSFGLRF-NH_2	AS-64240
AH1 Sequence (6-14) murine leukemia virus MuLV SPSYVYHQF	AS-64798
Caspase 1 (ICE) Inhibitor II, biotinylated Biotin-YVAD-CMK	AS-60841
Caspase 3 (Apopain) Substrate 1m, fluorogenic Ac-DEVD-AMC	AS-25262-5
Caspase 8 Substrate 1, chromogenic Ac-IETD-pNA	AS-25258-5
Caspase 9 Substrate 1, chromogenic Ac-LEHD-pNA	AS-25278-5
gp100 (209-217) IMDQVPFSV	AS-61277
c-Myc peptide epitope EQKLISEEDL	AS-24194
TRP-2, Tyrosinase-related Protein 2 (180-188) SVYDFFVWL	AS-61058
NY-ESO-1 (87-111) LLEFYLAMPFATPMEAELARRSLAQ	AS-62655
Bid BH3 (80-99) EDIIRNIARHLAQVGDSMDR	AS-61711
Bid BH3 (80-99), FAM labelled 5-FAM-EDIIRNIARHLAQVGDSMDR	AS-61712
p53 (17-26), FITC labeled FITC-LC-ETFSDLWKLL-NH_2	AS-62386
BAD (103-127), human NLWAAQRYGRELRRMSDEFVDSFKK	AS-60984
Bim BH3, Peptide IV DMRPEIWIAQELRRIGDEFNAYYARR	AS-62279
Human PD-L1 inhibitor I FNWDYSWKSERLKEAYDL	AS-65581
Human PD-L1 inhibitor II FNWDYSLEELREKAKYK	AS-65582
Human PD-L1 inhibitor III TEKDYRHGNIRMKLAYDL	AS-65583
Human PD-L1 inhibitor IV GNWDYNSQRAQLYNQ	AS-65584
Human PD-L1 inhibitor V LDYVNRRKMYQ	AS-65585

For a complete listing visit
www.eurogentec.com

CELL ADHESION AND ECM

The group of peptides presented here are related to the extracellular matrix and regulation of adhesion. This group includes cyclic peptides that target the integrin receptors and modulate integrin function via cell communication and signal transduction, matrix metalloprotease substrates, etc. As other catalogue peptides, these peptides are readily available to order, and continue to attract wide applications for these cell adhesion peptides. ■

SELECTION OF PEPTIDES

PRODUCT & SEQUENCE	CAT. #
520 MMP FRET Substrate III QXL™ 520-PLGC(Me)HAr-K(5-FAM)-NH_2	AS-60570-01
520 MMP FRET Substrate XV QXL™ 520 -γ-Abu-PQGL-Dab(5-FAM)-AK-NH_2	AS-60582-01
520 MMP FRET Substrate XIV QXL™ 520 -γ-Abu-P-Cha-Abu-Smc-HA-Dab(5-FAM)-AK-NH_2 (Smc=S-Methyl-L-cysteine)	AS-60581-01
Cyclo (-RGDfC), avb3 Integrin Binding Cyclic RGD Peptide Cyclo(-RGDfC)	AS-63785-1
Integrin Binding Peptide Ac-GCGYGRGDSPG-NH_2	AS-62349
Vitronectin (367-378) GKKQRFRHRNRKG	AS-65335
Hyaluronan Inhibitor GAHWQFNALTVR	AS-62622
ADAMTS-4/Aggrecanase FRET Substrate, WAAG-3R Abz-TEGEARGSVI-Dap(Dnp)-KK-NH_2	AS-60431-1
Cyclo (-RGDfK) Cyclo(-RGDfK)	AS-61111
Cyclo (-RGDyK) Cyclo(-RGDyK)	AS-61183-5
RGD-4C ACDCRGDCFCG (Disulfide bridge: 2-10 and 4-8)	AS-29898
GRGDSP GRGDSP	AS-22946
Cyclo-[GRGESP] Cyclo-[GRGESP]	AS-64447

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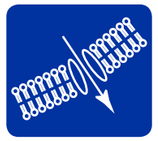
CELL PERMEABLE AND CELL PENETRATING



Discover our specialised group of peptides related to cell permeation and cellular components. This group features peptides such as TAT, receptor targeting peptides, Arginine repeats, nuclear and mitochondrial membrane transporters, etc. TAT penetrates plasma membranes directly, not through endocytosis. (Arg)9 is a cell-permeable peptide used for drug delivery which can traverse the plasma membrane of eukaryotic cells. The Antennapedia homeodomain protein of drosophila can penetrate biological membranes, and the derived peptide (residues 43-58) retains this translocation property.
SV-40 T antigen peptide is used to translocate DNA molecules to the cell nucleus. Pep-1 is an amphipathic synthetic cell-penetrating peptide which has been successfully used to deliver a variety of proteins and other biopharmaceutical macromolecules into cells in a non-disruptive way. Buforin interacts with phospholipid bilayers and can be efficiently translocated across the layer with a weak membrane permeabilisation activity. Cys(Npys) versions allow easy conjugation to the cargo molecules to be internalised.
These peptides are readily available to order, and continue to attract attention among scientists in drug discovery and research worldwide. ■

SELECTION OF PEPTIDES

PRODUCT & SEQUENCE	CAT. #
TAT (47-57) YGRKKRRQRRR	AS-60023-5
Cys(Npys)-TAT (47-57), FAM-labelled C(Npys)YGRKKRRQRRR-K(FAM)-NH_2	AS-61213
Tat-C (48-57) CGRKKRRQRRR	AS-62063
TAT-HA2 Fusion Peptide RRRQRRKKRGGDIMGEWGNEIFGAIAGFLG	AS-64876
(Arg)9 RRRRRRRRR	AS-61204
(Arg)9, FAM-labelled FAM-RRRRRRRRR	AS-61207
Cys(Npys)-(D-Arg)9 C(Npys)rrrrrrrrr-NH_2	AS-61206
Antennapedia Peptide, acid RQIKIWFQNRRMKWKK	AS-61032
Cys(Npys) Antennapedia Peptide, amide C(Npys)-RQIKIWFQNRRMKWKK-NH_2	AS-61034
SV40 T-Ag-derived Nuclear Localisation Signal (NLS) Peptide PKKKRKVEDPYC	AS-63788
Pep-1-Cysteamine Ac-KETWWETWWTEWSQPKKKRKV-cysteamine	AS-63849
Buforin TRSSRAGLQFPVGRVHRLLRK	AS-61255
Chimeric Rabies Virus Glycoprotein Fragment (RVG-9R) YTIWMPENPRPGTPCDIFTNSRGKRASNGGGGRRRRRRRRR	AS-62565
Penetratin RQIKIWFQNRRMKWKKGG	AS-64885

For a complete listing visit
www.eurogentec.com

HOST DEFENCE

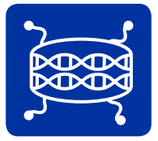
This category presents a unique group of peptides including microbial peptides, antimicrobials, immune-, and inflammation-mediated peptides categorised exclusively as a 'host defence' catalogue group of peptides. Readily available to order, the group features a unique combination of bacterial and viral peptides, antimicrobials like cathelicidins, immune-modulatory MHC-II and Ova peptides, and inflammation mediating cytokines involved in the study of several pathogen-mediated host defence mechanisms and studies involving characterisation of immune/inflammatory processes in disease events. ■

SELECTION OF PEPTIDES

PRODUCT & SEQUENCE	CAT. #
LL-37, Antimicrobial Peptide, human LLGDFFRKSKEKIGKEFKRIVQRIKDFLRNLVPRTES	AS-61302
OVA (257-264) SIINFEKL	AS-60193-1
OVA (323-339) ISQAVHAAHAEINEAGR	AS-27024
Influenza HA (307-319) PKYVKQNTLKLAT	AS-61028
CEF20, Cytomegalovirus, CMV pp65 (495-503) NLVPMVATV	AS-28328
IL-8 Inhibitor Ac-RRWWCR-NH_2	AS-62401
Magainin 2 GIGKFLHSAKKFGKAFVGEIMNS	AS-20640
mCRAMP, mouse GLLRKGGEKIGEKLKKIGQKIKNFFQKLVPQPEQ	AS-61305
C5a Receptor Agonist, mouse, human FKP-(D-Cha)-Cha-r	AS-65121
Protegrine-1 (PG-1), amide RGGRLCYCRRRFCVCVGR-NH_2 (disulfide bridge:6-15 and 8-13)	AS-64819-1
Indolicidin ILPWKWPWWPWRR-NH_2	AS-60999
flg22, Flagellin Fragment QRLSTGSRINSAKDDAAGLQIA	AS-62633
Defensin HNP-1, Human Neutrophil Peptide-1 ACYCRIPACIAGERRYGTCIYQGRLWAFCC (Disulfide bridge: 2-30, 4-19, 9-29)	AS-60743
hBD-3, beta-Defensin-3, human GIINTLQKYYCRVRGGRCAVLSCLPKEEQIGKCSTRGRKCCRRKK (Disulfide bridge: 11-40, 18-33, 23-41)	AS-60741
Gag Spacer Peptide P1 HHHHHHIIKIIK	AS-64773
HIV Substrate, HiLyte Fluor™ 488 QXL™520-GABA-SQNYPIVQ-K(HiLyte Fluor™ 488)-NH_2	AS-60635

For a complete listing visit
www.eurogentec.com

EPIGENETICS



Our exclusive gene expression related histone peptides offer a wide selection to choose from. This special group includes important histone peptides and their covalent modifcations on the amino terminal end such as methylation, acetylation and phosphorylation as key structural players in chromatin assembly and gene expression. As with our other catalogue peptides, these peptides are readily available to order. ■

SELECTION OF PEPTIDES

PRODUCT & SEQUENCE	CAT. #
Histone H3 (1-21) ARTKQTARKSTGGKAPRKQLA	AS-61701
Histone H3 (1-21)-GGK(Biotin)-NH_2 ARTKQTARKSTGGKAPRKQLA-GGK(Biotin)-NH_2	AS-61702
[Lys(Me1)4]-Histone H3 (1-21)-GGK(Biotin) ART-K(Me1)-QTARKSTGGKAPRKQLA-GGK(Biotin)	AS-64355-1
[Lys(Me2)4]-Histone H3 (1-21), H3K4(Me2) ART-K(Me2)-QTARKSTGGKAPRKQLA	AS-63677
[Lys(Ac)9]-Histone H3 (1-21), H3K9(Ac) ARTKQTAR-K(Ac)-STGGKAPRKQLA	AS-64191
[Lys(Ac)9]-Histone H3 (1-21)-GGK(Biotin) ARTKQTAR-K(Ac)-STGGKAPRKQLA-GGK(Biotin)	AS-64361-1
Histone H3 (21-44) ATKAARKSAPATGGVKKPHRYRPG	AS-64454-1
Histone H3 (21-44)-GK(Biotin) ATKAARKSAPATGGVKKPHRYRPG-GK(Biotin)	AS-64440-1
[Lys(Me3)27]-Histone H3 (21-44)-GK(Biotin) ATKAAR-K(Me3)-SAPATGGVKKPHRYRPG-GK(Biotin)	AS-64367-1
Histone H4 (1-21), p300/CBP Substrate SGRGKGGKGLGKGGAKRHRKV	AS-62499
Histone H4 (1-21)-GGK(Biotin) Ac-SGRGKGGKGLGKGGAKRHRKV-GGK(Biotin)	AS-62555
[Lys(Ac)5/8/12/16]-Histone H4 (1-21)-GGK(Biotin) SGRG-K(Ac)-GG-K(Ac)-GLG-K(Ac)-GGA-K(Ac)-RHRKV-GGK(Biotin)	AS-64989-1
Histone H4 (1-25)-GSGSK(Biotin) SGRGKGGKGLGKGGAKRHRKVLRDN-GSGSK(Biotin)	AS-65242-1

For a complete listing visit
www.eurogentec.com

PEPTIDE HORMONES

We offer a comprehensive list of important peptide hormones that are active at a physiological level and target specific organs and systems. The catalogue group of peptide hormones includes hormones acting on the hypothalamus-pituitary axis, endocrine system, gastrointestinal tract etc. These highly popular peptides related to physiology are readily available to order, and have supported both basic and applied research. ■

ORDERING INFORMATION

PRODUCT & SEQUENCE	CAT. #
PACAP (1-27), amide, human, ovine, rat HSDGIFTDSYSRYRKQMAVKKYLAAVL-NH_2	AS-22527
Oxytocin CYIQNCPLG-NH_2 (Disulfide bridge: 1-6)	AS-24276
Peptide YY, human YPIKPEAPGEDASPEELNRYYASLRHYLNLVTRQRY-NH_2	AS-24401
Cholecystokinin (26-33), CCK Octapeptide, sulfated CCK-8 D-Y(SO3H)-MGWMDF-NH_2	AS-20741
[Des-octanoyl]-Ghrelin, human GSSFLSPEHQRVQQRKESKKPPAKLQPR	AS-61177
ACTH (1-39), human SYSMEHFRWGKPVGKKRRPVKVYPNGAEDESAEAFPLEF	AS-20611
Leptin (93-105), human NVIQISNDLENLR	AS-62853
Gastrin-1, human Pyr-GPWLEEEEEAYGWMDF-NH_2	AS-20750
Nesfatin-1 (24-53), human PDTGLYYDEYLKQVIDVLETDKHFREKLQK-NH_2	AS-65571

For a complete listing visit
www.eurogentec.com

SIGNALLING

This catalogue peptide category comprises a comprehensive listing of signalling peptides under an exclusive catalogue grouping. This group includes a vast array of kinase substrate libraries, kinase/phosphatase substrates, ion channel modulators etc, unique to several signalling pathways and signal transduction mechanisms involved in normal physiology and disease. These peptides are readily available to order, and continue to attract wide applications. ■

ORDERING INFORMATION

PRODUCT & SEQUENCE	CAT. #
Kinase Substrates Library, Group I, biotinylated, 180 distinct peptide mixtures	AS-62017-1
Kinase Substrates Library, Group II, biotinylated, 18 distinct peptide mixtures	AS-62335
CDK7/9 tide YSPTSPSYSPTSPSYSPTSPSKKKK	AS-63367
Kemptide [LRRASLG] LRRASLG	AS-22594
Myristolated PKC Zeta, Pseudosubstrate (ZIP) Myr-SIYRRGARRWRKL	AS-63361
Autocamtide-2-Related Inhibitory Peptide (AIP); CaMKII Inhibitor, myristoylated Myr-KKALRRQEAVDAL	AS-64929
Casein Kinase 2 (CK2) Substrate alpha-subunit [RRRDDDSDDD] RRRDDDSDDD	AS-60615
Srctide [GEEPLYWSFPAKKK-NH_2] GEEPLYWSFPAKKK-NH_2	AS-64105
CK1 Peptide Substrate [pS7] [KRRRAL-pS-VASLPGL] KRRRAL-pS-VASLPGL	AS-63797
Protein Kinase Cepsilon Peptide Substrate [ERMRPRKRQGSVRRRV] ERMRPRKRQGSVRRRV	AS-27183
AMARA peptide AMARAASAAALARRR	AS-62596
Tyrosine Kinase Peptide 3 [RRLIEDAE-pY-AARG], Phosphorylated RRLIEDAE-pY-AARG	AS-24546
Insulin Receptor (1142-1153), pTyr(1146, 1150, 1151) TRDI-pY-ETD-pY-pY-RK	AS-20272
Caloxin 1b1 TAWSEVLHLLSRGGG	AS-64236
Iberiotoxin (IbTX) Pyr-FTDVDCSVSKECWSVCKDLFGVDRGKCMGKKCRCYQ(Disulfide bridge: C7-C28,C13-C33,C17-C35)	AS-60763

For a complete listing visit
www.eurogentec.com

PEPTIDE ANALYSIS

Our peptides for analysis purposes include mass spectroscopy standards, epitope tags, phosphopeptide standards, and dipeptide libraries. The peptide MS standards consists of 2 MS calibration mixtures (800 to 3800 Da); the phosphopeptide MS standard is a mix of 6 phosphorylated peptides.
The dipeptide library is composed of dipeptides to be chosen among a selection for your application. These peptides are grouped under 'peptide analysis' for ease of selection and ordering. They are also readily available to order. ■

ORDERING INFORMATION

PRODUCT & SEQUENCE	CAT. #
HA Tag YPYDVPDYA	AS-21156
3 x Hemagglutinin (HA) Tag MEYPYDVPDYAAEYPYDVPDYAAEYPYDVPDYAAKLE	AS-63764
DYKDDDDK Tag DYKDDDDK	AS-60738
His Tag HHHHHH	AS-24420
Glu-Glu epitope Tag EYMPME	AS-62189
Rhodopsin Epitope Tag TETSQVAPA	AS-62190
V5 Epitope Tag GKPIPNPLLGLDST	AS-61176
[Glu1]-Fibrinopeptide B MS standard EGVNDNEEGFFSAR	AS-60501-1
Peptide Mass Spec Standards	AS-60882
Phosphopeptide Mass Spec Standards	AS-61145
ClearPoint™ BSA (347-359), Isotopic labelled, Mass Spec Standard DAF-L*-GSF-L*-YEYSR [L* = L(U13C6, 15N)]	AS-61220
Bovine ß-Casein, monophosphopeptide standard for MS and IC FQ-pS-EEQQQTEDELQDK	AS-61146
Dipeptide Library	AS-65126-336

For a complete listing visit
www.eurogentec.com

ANNEXES

TECHNICAL INFO AND FAQs

Is there a length limitation for custom peptides?

Typical lengths are 2 to 60 amino acids long. Longer peptides are possible, but they are sequence dependent and must be assessed carefully.

What type of counter-ion should I request?

Default is TFA (Trifluoroacetic acid), but if working with cells or animals, you may prefer an acetate or HCl salt counter-ion (for additional fee).

How do I calculate molarity of my catalogue or custom peptide?

Molarity refers to the molar concentration of a solution, which is the number of moles of solute dissolved in 1 liter of solution, expressed as mol/L, or M.
Molarity [M] = Mass / (Volume x Molar Mass); Mole = Concentration (g/L) x Volume (L)/MW (g/mol)

Example:
Given: 1mg of dry peptide powder with MW: 20KDa (Molar mass of peptide is 20 g/mol)
To determine molarity with known mass and known volume
For a 1ml solution of this peptide:
Molarity = Mass (0.001g) / (volume (0.001L) x Molar Mass (MW 20,000) = 50µM

To determine mass to achieve a certain molarity:
If for your assay, you need 0.01mM working peptide solution in 1ml of water, then calculate mass required as follows:
Mass = Molarity x Volume x Molar Mass
Mass = 0.01mM x (1/1000 L) x 20,000g/mol = 0.0002g
Hence, you will need 0.2mg/ml of peptide to have a working solution of 0.01mM.

How should I store my peptide?

For long-term storage of peptides, lyophilisation is highly recommended. Lyophilised peptides can be stored for years at temperatures of -20 °C or lower with little or no degradation. Peptides in solution are much less stable. Peptides are susceptible to degradation by bacteria so they should be dissolved in sterile, purified water.
As moisture will greatly reduce the long term stability of peptides, peptides should be allowed to equilibrate to room temperature in a dessicator before dispensing, thus avoiding exposure to moisture in the air which will condense on the peptide. Once dispensed, the tube should be gently purged with anhydrous nitrogen or argon, the container recapped, sealed with parafilm and stored at -20 °C.

In solution, some slow degradation reactions may take place, the rate of which will be sequence dependent:
- Peptides containing methionine, cysteine, or tryptophan residues can have limited storage time in solution due to oxidation. These peptides should be dissolved in oxygen-free solvents.
- Glutamine and asparagine can deamidate to Glu and Asp, respectively
- Cysteines can undergo oxidative cyclisation to form Cys-Cys
- Charged residues (Asp, Glu, Lys, Arg, His) are hygroscopic (take up water + moisture)

To prevent the damage caused by repeated freezing and thawing of peptides, dissolving the amount needed for the immediate experiment and storage of the remaining peptide in solid form is recommended.

How do I solubilise my peptide?

Peptide solubility characteristics vary strongly from one peptide to another. Residues such as Ala, Cys, Ile, Leu, Met, Phe, and Val will increase the chance of the peptide having solubility problems.
The best solvent to use will depend on the solubility properties of the peptide and solvent requirements of your assay. We recommend predicting the physical properties of the peptide, dissolving the peptide as a function of these physical properties and then adapting the solubility results experimentally.
In order to reconstitute the peptide, distilled water or a buffer solution should be utilised. Some peptides have low solubility in water and must be dissolved in other solvents such as 10% acetic acid for positively charged peptides or 10 % ammonium bicarbonate solution for negatively charged peptides. Other solvents that can be used for dissolving peptides are acetonitrile, DMSO, DMF, or isopropanol. Use the minimal amount of these non-aqueous solvents and add water or buffer to make up the desired volume. Always use pure solvent first, then dilute by adding water stepwise until you reach a solvent concentration compatible with your assay. After peptides are reconstituted, they should be used as soon as possible to avoid degradation in solution. Unused peptide should be aliquoted into single-use portions, relyophilised if possible, and stored at -20 °C. Repeated thawing and refreezing should be avoided.
For peptides that tend to aggregate (usually peptides containing cysteines), add 6 M urea, 6 M urea with 20 % acetic acid, or 6 M guanidine - HCl to the peptide, then proceed with the necessary dilutions. Please note that urea irreversibly alters the side chain of lysines. If this is to be avoided, use of guanidium chloride is advised.
A major problem associated with the dissolution of a peptide is secondary structure formation. This formation is likely to occur with all but the shortest of peptides and is even more pronounced in peptides containing multiple hydrophobic amino acid residues. Secondary structure formation can be promoted by salts.

ADDITIONAL SERVICE

DISPENSING

The dispensing service is in line with ISO15189 quality standards. Any size of routine assays to full kitting solutions can be produced with a very high reliability, reproducibility and accuracy. This process saves set-up time and reduces reagent wastage, while keeping format flexibility.

To avoid freeze-thaw cycles and increase your peptide's life-time we can deliver your peptides into aliquoted vials containing ready-to-use accurate quantity.
Our dispensing service guarantees a high vial to vial reproducibility and considerably reduces set-up time and peptide waste that may occur with manual pipeting. The dispensing service is in line with ISO15189 requirements and each production is performed under controlled environment to avoid contamination risks.

TRADEMARKS AND LABELS

HOW TO ORDER ON LINE

WWW.EUROGENTEC.COM

CUSTOM PEPTIDES

Step 1: Request a Quote by sending the following information.	a.	Provide the peptide sequence using the single letter amino acid code **N-term** ——XXXXXXXXX—— **C-term** Upper case letters denote L-form amino acids Lower case letters denote D-form amino acids
	b.	Indicate modifications and location in sequence
	c.	Specify N-terminus: free amine, capped, or other C-terminus: free carboxyl, capped, or other
	d.	Required Purity >95%, >90%, >85%, >80%, >70%, or crude
	e.	Quantity (mg to grams) specify if amount is gross or net.
	f.	Indicate number of vials and peptide quantity per vial (default is one vial)
	g.	Tell us the required counter-ion. Trifluoroacetic acid (TFA) Acetate salt HCl salt
	h.	Send us your quote request via email or online.
Step 2: Review your Quote		Upon receipt of quote (+/- 24 hours), review the sequence and specifications for accuracy. Contact us if a revision is needed.
Step 3: Order your peptide		Send us your order along with the quotation number.

Europe

QUOTE REQUEST
online: http://www.eurogentec.com/custom-peptide-order-form.html
email: peptidequotation@eurogentec.com

ORDER
order@eurogentec.com

TECHNICAL ASSISTANCE
info@eurogentec.com

US, Canada & Asia

QUOTE REQUEST
online: http://www.anaspec.com/services/peptide.asp
email: quotes@anaspec.com

ORDER
email: orders@anaspec.com

TECHNICAL ASSISTANCE
email: chemistry@anaspec.com

CATALOGUE PEPTIDES

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Can't find a peptide or need bulk quantities? Request a peptide quotation.

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online: www.eurogentec.com

BULK QUOTE
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Apstatin peptide

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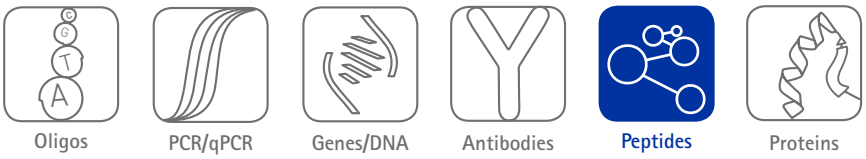
Peptides

Life Science Research



Contact:
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representative or contact us at:
isales@eurogentec.com

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Liège Science Park
Rue bois Saint-Jean 5
4102 Seraing

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