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CATALOG PRODUCTS

- RGD Platform
 - ProTx-II & Other Toxins
 - Biologically Active Peptides
 - Substrates & Inhibitors
 - dPEGs and Linkers
- Full list @ PEPNET.COM

CUSTOM CHEMISTRY SERVICES

Made in USA

- Design Consultation
- Chemistry Development
- Process Scale-up
- Pilot-Scale Synthesis
- Solution & Solid Phase
- *Substrates by Design™*

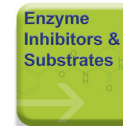


Key literature citations and patents referring to Peptides International products and services

EXCELLENCE COMPOUNDED

- High Purity, Quality and Value
- Strict Confidentiality
- Friendly Service
- Proactive Project Management

PEPNET.COM



FAQs:

A General Guideline for Storage & Handling of Peptides

Peptide Storage and Shipping

Peptides International produces and distributes peptides in two categories: catalog peptides or custom-produced peptides according to client specifications. Each lot is analyzed thoroughly by our QC department and supporting analytical data is reported in the Analytical Data Sheet (ADS) with each shipment. Upon request PI will provide Material Safety Data Sheet (MSDS) for a given product. Complete physical, chemical, biological, pharmacological or toxicological properties of the products are not known. The products are intended to be used by qualified professionals under proper laboratory safety practices in appropriate facilities



Q. What are the shipping conditions for the peptide I am receiving?

A. Most peptides are shipped at room temperature, and peptides are delivered to you in a lyophilized state. These shipping conditions do not compromise quality since these products are stable at room temperatures and above for as long as several weeks. Once a product arrives at your facility, it should be kept at -20 °C for long-term storage.

In a rare instance where a peptide requires shipment at low temperature, a dry ice shipment will be arranged. The cost of the shipment is the responsibility of the customer.

Q. How should I store my peptide?

- A.
- Store in a desiccator or with a desiccant to maintain a dry environment.
 - Store in the freezer at a temperature of -20 °C

Q. What is the appearance of my peptide?

A. The physical state for peptides ranges from amorphous solid to crystalline powder. Please note that some peptides will appear as a small disk at the bottom of the vial, others may appear fluffy or powdery, and other peptides may not seem visible at all. Particularly, peptides ordered in small quantities such as 0.1 mg or 0.5 mg, may not be visible, especially through an amber glass vial.

Q. How stable is the peptide I received?

A. In general peptides are quite stable. Most peptides lack a tertiary structure which is considered unstable because it is held together by non-covalent bonds and can

only be damaged by breaking the peptide bond or by covalent modification. In addition, synthetic peptides, unlike proteins purified from cells, have an extremely low chance of proteinase contamination.

Peptides are stable for more than 1 year if they are stored in a lyophilized state at $-20\text{ }^{\circ}\text{C}$ or below and protected from moisture and light. However, following reconstitution of a peptide in solution, stability and storage time will decrease.

If a peptide has been in solution for an extended period of time, homogeneity of the peptide must be reconfirmed. Typically, once a peptide is in solution, it should be used within a few weeks even when stored below $-20\text{ }^{\circ}\text{C}$. For specific information on storage time of a peptide solution, refer to the product sheet that comes with the order.

Conditions that can affect peptide stability include the following:

- Contamination from microorganisms or metal ions can lead to peptide-bond cleavage. Use sterile buffer or water to reconstitute the peptide.
- Moisture can lead to hydrolysis of the peptide. The peptide should be allowed to warm gradually to room temperature in a desiccator to reduce condensation of water vapor.
- Constant freezing and thawing can compromise peptide integrity; therefore, stock solutions should be aliquoted.



- O_2 can negatively affect Trp, Cys, and Met residues in a peptide. If a peptide contains any of these residues, Peptides International will blanket the peptide in argon prior to sealing the vial, or screw-cap bottle.
- Certain amino acid bonds in a peptide are more problematic:
 - Asp-Pro bonds are sensitive to acid cleavage
 - Asn-Gly and Asp-Gly bonds, and sometimes Asp N-term to short side-chain residues (i.e. Ser, Thr, Ala, Asn), can cyclize to form an aspartimide intermediate which, in turn, can undergo spontaneous changes that can alter the peptide.

Q. How should I reconstitute a peptide in solution?

A. To ensure peptide integrity, the recommendations below should be followed:

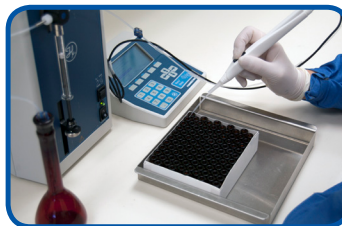
- The peptide should be allowed to warm gradually to room temperature in a desiccator in order to minimize condensation of water vapor upon opening the vial or screw-cap bottle.
- Visually locate the peptide in the container. Tap the vial or container the peptide comes in to ensure the product is not trapped in the cap.
- Follow the instructions for solubility that accompanies the product. Products that are sold as $-s$ or $-v$ have lot-specific solubility sheets that accompany each vial.
- Use sterile buffer or water to reconstitute the peptide. For smaller quantities such as 0.1 or 0.5 mg, it is recommended to use a sterile syringe to inject solvent into the vial as opposed to opening the cap. If DMSO is required for solubilization, be sure to use analytical grade DMSO. DMSO can degrade and become dilute with time because it can take up water from the air so care should be taken when using stock DMSO.
- Aliquot the remaining peptide solution into single-use sterile glass or high quality polypropylene vials for storage to prevent repeated freezing and thawing which can be detrimental to the integrity of the peptide.
- Store stock solution in a freezer, at $-20\text{ }^{\circ}\text{C}$ or below, under dry conditions, at a pH of 5-7.

Q. What is peptide purity?

A. This is the percentage of peptide that is found in the correct sequence as opposed to truncated, deleted, or incomplete sequences that can arise from peptide synthesis. The purity is determined by high performance liquid chromatography (HPLC).

Q. What is the difference between gross peptide weight and net peptide weight?

A. Net peptide weight is the weight of the total peptide. Some products from the Peptide Institute are distributed in premeasured vials. These are indicated by the suffix $-s$ or $-v$ in the catalog. The net peptide weight is precisely determined by amino acid analysis after acid hydrolysis, HPLC, and/or UV absorption, and the value is indicated clearly on the vial label. The indicated weight is only for the net peptide molecule, and the weights of any constituents are excluded from the quantity. The amount of usable peptide meets and may exceed its advertised quantity.



Gross peptide weight is the weight of the peptide and peptide impurities as well as non-peptide components. Peptides manufactured by Peptides International are sold in gross peptide weight.

Liability Disclaimer

A. All products sold by Peptides International, Inc. are intended solely for laboratory and research use and should not be used in or on human subjects. User assumes all risk of patent infringement by reason of use of material provided by Peptides International. Peptides International will not be responsible for damages arising from misuse of any product and is not responsible for the results of research using our products.

Our catalog peptides are high quality products that often times have purities greater than 98%.

