

Handling and Storage of Synthetic Peptides

Storage of Lyophilized Peptide

1. Delivery: lyophilized peptide powder in centrifuge tubes. It is stable for 2-4 weeks and suitable for room-temperature transportation.
2. Temperature and Light Exposure: standard storage temperature is -20°C or lower, with protection from light. Most peptides remain stable for several years under these conditions.
3. Special Residues: peptides containing cysteine (Cys), methionine (Met), or tryptophan (Trp) are prone to oxidation and require storage in an oxygen-free environment (e.g., argon/nitrogen atmosphere). Peptides containing aspartic acid (Asp), glutamic acid (Glu), lysine (Lys), arginine (Arg), or histidine (His) readily absorb moisture and deliquesce, requiring storage in sealed, desiccated containers.
4. Retrieval: equilibrate peptides to room temperature before opening containers to minimize moisture condensation.

Storage of Liquid Peptides

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1. Stability: liquid peptides are significantly less stable than lyophilized powders and are not recommended for long-term storage. Peptides containing Cys, Met, Trp, Asp, Gln, or N-terminal Glu are more prone to degradation.
2. Aliquot: aliquot liquid peptides and avoid freeze-thaw cycles.
3. Storage Conditions and Shelf Life:
Six months when stored at -80°C.
One (1) month when stored at -20°C.
Micrograms can be removed by a 0.2 µm filter.

PhioGen

Dissolving Peptides

1. Solvent: there is no universal solvent for all lyophilized peptides different solvents have been tested for all the peptides produced by PhioGen. Please check the CERTIFICATE OF ANALYSIS (COA) file to find the proper solvent for peptide dissolution.
2. Concentration: stock solutions at 1-2 mg/ml, consider the solvent's tolerance.
3. Handling: after dissolution, dilute peptides to the experimental concentration. Use them immediately or store them according to the solution preservation requirements.

CERTIFICATE OF ANALYSIS	
Product Name	Short neuropeptide F, CLE: 317818
Lot No.	GT30375-2-0228
Sequence	SDPHLSLSKPMASIPSYKFDQ
Dissolution condition	15%ACN+85%DEQ
Length	22AA
Modification	N/A
Molecular Weight (MW)	2448.72
Storage	-20°C

Conclusion

The most effective way to minimize peptide degradation is to store the peptide in lyophilized form at -20 °C or preferably at -80 °C.

If the peptide is in solution, avoid freeze-thaw cycles by freezing individual aliquots. Exposure to pH>8 should be avoided. However, if peptides must be dissolved at pH>8, the solutions should be chilled. Finally, prolonged exposure of lyophilized peptides and solutions (especially at high pH) to the atmosphere should be minimized.