

# Reconstitution & Laboratory Fundamentals

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**Research Basis:** Standard laboratory protocols based on USP guidelines, WHO pharmaceutical standards, and best practices from major research institutions.

## Bacteriostatic Water (BAC Water)

Dosage	N/A — solvent
Route	Reconstitution solvent
Cycle / Duration	N/A
Research Purpose	0.9% benzyl alcohol in sterile water. Standard solvent for peptide reconstitution. Inhibits bacterial growth for multi-use vials. Use 1–2 mL per vial depending on desired concentration.
Key References	USP <1> General Notices; WHO Technical Report Series No. 970 (2023)

## Sterile Water for Injection

Dosage	N/A — solvent
Route	Reconstitution solvent
Cycle / Duration	N/A
Research Purpose	Pyrogen-free sterile water for single-use reconstitution. Preferred for peptides sensitive to benzyl alcohol. Must be used within 24 hours of reconstitution.
Key References	USP <1231>; FDA Guidance for Industry: Sterile Drug Products (2023)

## Acetic Acid (0.1–1%)

<b>Dosage</b>	N/A — solvent
<b>Route</b>	Reconstitution solvent
<b>Cycle / Duration</b>	N/A
<b>Research Purpose</b>	Dilute acetic acid solution used for peptides with poor aqueous solubility (e.g., IGF-1, GH fragments). Improves solubility of hydrophobic peptides. Dilute with BAC water after initial dissolution.
<b>Key References</b>	<i>Sigma-Aldrich Peptide Reconstitution Guide (2024); Bachem Technical Notes (2023)</i>