BAC Water

History and Background

Bacteriostatic Water (BAC Water) is sterile water containing 0.9% benzyl alcohol as a bacteriostatic preservative. It has been used in medical settings since the mid-20th century for reconstituting medications and peptides. The benzyl alcohol prevents bacterial growth in multi-dose vials, allowing for safe storage and multiple uses over weeks. It is a pharmaceutical-grade product essential for peptide research and administration.

Primary Uses

BAC Water is used for reconstituting lyophilized (freeze-dried) peptides and medications, diluting medications for injection, preparing multi-dose vials for research, and ensuring sterility over extended use periods (up to 28 days after opening).

How It Works

The 0.9% benzyl alcohol acts as a bacteriostatic agent, inhibiting bacterial growth without sterilizing the solution. This allows the water to remain safe for multiple withdrawals from the same vial over weeks. When mixed with lyophilized peptides, it dissolves the powder into an injectable solution. The benzyl alcohol does not interfere with peptide structure or function.

Standard Protocol

Dosing: Amount used depends on desired final peptide concentration. Common: 1-3ml per vial. Calculate: (total mg of peptide) / (ml of BAC Water) = concentration in mg/ml.

Administration: Draw into sterile syringe using sterile technique. Wipe vial top with alcohol swab before each use. Inject slowly into lyophilized peptide vial.

Timing: Reconstitute peptides immediately before starting a cycle, or as needed. Once reconstituted, most peptides stable for 2-4 weeks refrigerated.

Titration Schedule:

Reconstitution: Volume varies by peptide concentration desired

Example: 2ml BAC Water + 5mg peptide = 2.5mg/ml concentration

Storage: Refrigerate after opening, use within 28 days

Sterility: Always use sterile technique and alcohol swabs

Duration: Unopened BAC Water: stable for years. After opening: use within 28 days for safety.

What to Expect

Positive Effects (Week 1-2)

Clean, sterile solution for peptide reconstitution. No burning or stinging when properly mixed. Maintains peptide stability. Multiple use capability from single vial. Safe bacterial inhibition.

Timeline to Results

Immediate dissolving of most peptides. Complete reconstitution: 1-5 minutes with gentle swirling. Clear solution indicates proper reconstitution.

Dose Response

More BAC Water = lower peptide concentration (easier to dose small amounts). Less BAC Water = higher concentration (fewer injections needed but harder to dose precisely).

Pros

Essential for reconstituting peptides safely
Multi-dose capability (28 days after opening)
Pharmaceutical grade and sterile
Bacteriostatic properties prevent contamination
No stinging or burning sensation
Simple to use
Long shelf life unopened
Inexpensive
Widely available from research chemical suppliers

Cons

28-day use limit after opening
Requires refrigeration after opening
Benzyl alcohol contraindicated in newborns
Cannot be used for all peptides (some require sterile water)
Requires sterile technique to maintain safety
Improper storage can lead to contamination
Not suitable for intrathecal (spinal) injection

Who Should Consider It

Anyone using lyophilized peptides for research, individuals needing to reconstitute multi-dose vials, researchers requiring bacteriostatic properties for safety.

Who Should Avoid It

Individuals with benzyl alcohol allergy, those preparing medications for newborns or infants, anyone using peptides requiring preservative-free water, people unable to maintain sterile technique.

For research purposes only. BAC Water is essential for safe peptide reconstitution. Always use sterile technique. Consult product-specific reconstitution guidelines for each peptide.