



Technical Support Information Bulletin 1185

Reduction of Disulfide Bonds

Peptides containing multiple cysteine residues can readily oxidize to form disulfide bridged structures, especially during purification of the peptide. In cases where a single cyclic form is generated, it may be advantageous to prepare and purify the peptide in the cyclized form, then reduce the disulfide bond with an immobilized reducing agent such as Immobilized TCEP Disulfide Reducing Gel (available as a 50% slurry).

General Procedure for Reducing Disulfide

1. Dissolve the peptide in degassed, deionized water to form a solution with an approximate concentration of 0.1 to 105 mg/mL.
2. Flush the flask with inert gas and add an equal volume of 50% slurry of immobilized TCEP.
3. Gently shake the mixture under inert atmosphere for 30 minutes.
4. Filter the mixture. Wash the immobilized TCEP with degassed, deionized water. Add the washes to the filtrate.
5. Use the reduced peptide immediately because the disulfide bonds will reform over time.