

PMPI

28100

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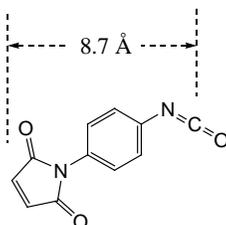
Number

28100

DescriptionPMPI (*N*-[*p*-maleimidophenyl] isocyanate), 50mgFormula: C₁₁H₆N₂O₃

Spacer arm: 8.7Å

Molecular weight: 214.18



Storage: Upon receipt store at 4°C protected from moisture. Product is shipped at ambient temperature.

Introduction

Thermo Scientific PMPI is a sulfhydryl- and hydroxyl-reactive crosslinker. The isocyanate end of PMPI reacts with hydroxyl groups to form urethane (carbamate) linkages. Isocyanate reactivity is efficient, but isocyanates are also subject to hydrolysis, releasing CO₂ and leaving an aromatic amine in its place. The maleimide end reacts with sulfhydryl groups at pH 6.5-7.5 to form stable thioether bonds.

Product Information

- PMPI is moisture-sensitive. To avoid moisture condensation onto the product, vial must be equilibrated to room temperature before opening.
- Isocyanates readily hydrolyze in aqueous buffers; therefore, organic solvents such as DMSO or DMF are preferred. In aqueous environments, use alkaline buffer conditions (pH 8.5) and avoid hydroxylic buffers such as Tris. If the isocyanate group will be reacted first in an aqueous environment, the hydroxyl-containing molecule must lack both amines and sulfhydryls or polymerization can occur (above pH 7.5 maleimides lose specificity for sulfhydryls and react with both amines and sulfhydryls).
- For best results, use at least a 10-fold molar excess of PMPI over hydroxyls.
- If sulfhydryls are not present, they may be created through disulfide reduction or through thiolation with 2-Iminoethanol (Product No. 26101) or SATA (Product No. 26102).
- Molecules to be reacted with the maleimide moiety must have free (reduced) sulfhydryls. Reduce peptide disulfide bonds with Thermo Scientific Immobilized TCEP Disulfide Reducing Gel (Product No. 77712). For proteins, reduce disulfide bonds using 5mM TCEP (1:100 dilution of Thermo Scientific Bond-Breaker TCEP Solution, Product No. 77720) for 30 minutes at room temperature, followed by two passes through a suitable desalting column (e.g., Thermo Scientific Zeba Spin Desalting Columns). Selective reduction of hinge-region disulfide bonds in IgG can be accomplished with 2-mercaptoethylamine•HCl (2-MEA, Product No. 20408). Sulfhydryls can be added to molecules using *N*-succinimidyl *S*-acetylthioacetate (SATA, Product No. 26102) or 2-iminoethanol•HCl (Traut's Reagent, Product No. 26101), which modify primary amines.

Related Thermo Scientific Products

20036	Bioconjugate Techniques, 2 nd Edition, softcover
28372	BupH™ Phosphate Buffered Saline Packs, 40 packs
89889	Zeba Spin Desalting Columns, 5 × 2mL columns for desalting 200-700µL samples
89891	Zeba Spin Desalting Columns, 5 × 5mL columns for desalting 500-2000µL samples
20673	Dimethylformamide (DMF), Sequanal grade, 50mL
20688	Dimethylsulfoxide (DMSO), Sequanal grade, 950mL

General Reference

Annunziato, M.E., *et al.* (1993). *p*-Maleimidophenyl isocyanate: A novel heterobifunctional linker for hydroxyl to thiol coupling. *Bioconjugate Chem* 4:212-8.

This product ("Product") is warranted to operate or perform substantially in conformance with published Product specifications in effect at the time of sale, as set forth in the Product documentation, specifications and/or accompanying package inserts ("Documentation") and to be free from defects in material and workmanship. Unless otherwise expressly authorized in writing, Products are supplied for research use only. No claim of suitability for use in applications regulated by FDA is made. The warranty provided herein is valid only when used by properly trained individuals. Unless otherwise stated in the Documentation, this warranty is limited to one year from date of shipment when the Product is subjected to normal, proper and intended usage. This warranty does not extend to anyone other than the original purchaser of the Product ("Buyer").

No other warranties, express or implied, are granted, including without limitation, implied warranties of merchantability, fitness for any particular purpose, or non infringement. Buyer's exclusive remedy for non-conforming Products during the warranty period is limited to replacement of or refund for the non-conforming Product(s).

There is no obligation to replace Products as the result of (i) accident, disaster or event of force majeure, (ii) misuse, fault or negligence of or by Buyer, (iii) use of the Products in a manner for which they were not designed, or (iv) improper storage and handling of the Products.

Current product instructions are available at www.thermoscientific.com/pierce. For a faxed copy, call 800-874-3723 or contact your local distributor.

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