

Technical Datasheet

Product Name: NP-40 Tissue Lysis Buffer

Catalog Number: BPBOI015

Concentration: 1X

Introduction:

NP-40 Tissue Lysis Buffer is a non-denaturing detergent buffer commonly used for the extraction of proteins, nucleic acids, and other macromolecules from tissues and cells. This buffer is specifically formulated to gently disrupt cell membranes while preserving the native structure and biological activity of proteins. NP-40, a nonionic surfactant, is the key component that facilitates efficient lysis of cellular membranes without denaturing the proteins, making this buffer ideal for applications requiring intact protein complexes or enzymatic activity. NP-40 Tissue Lysis Buffer is widely used in various biochemical and molecular biology applications, including protein purification, immunoprecipitation, and Western blotting.

Product Description:

NP-40 Tissue Lysis Buffer is composed of NP-40 (Nonidet P-40), a non-ionic detergent, along with other buffering agents that maintain a stable pH environment during lysis. The buffer is designed to lyse cells effectively, solubilize membrane proteins, and release cytoplasmic and nuclear contents while minimizing the risk of protein degradation or denaturation. This makes it suitable for the extraction of functional proteins, protein complexes, and nucleic acids from tissue samples, cultured cells, and other biological materials.

Applications:

BioPioneer's NP-40 Tissue Lysis Buffer is versatile and suitable for a range of applications:

Protein Extraction: Ideal for isolating proteins from tissues and cultured cells without disrupting their native structure.

Immunoprecipitation: Suitable for use in immunoprecipitation assays to isolate specific protein complexes.

Western Blotting: Compatible with Western blotting protocols where preservation of protein conformation is critical.

Nucleic Acid Extraction: Can be used to extract DNA and RNA from tissue samples for downstream molecular biology applications.

Composition:

NP-40 Tissue Lysis Buffer is formulated with NP-40 detergent, Tris-HCl, NaCl, and other stabilizing agents to ensure effective lysis while preserving the functionality of the target biomolecules. The buffer is provided as a ready-to-use solution.

Preparation Instructions:

The buffer is supplied as a ready-to-use 1X solution. No further dilution is required before use. For optimal results, the buffer should be used immediately upon preparation of tissue or cell samples.

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Storage Conditions:

Store NP-40 Tissue Lysis Buffer at 4°C. Ensure the buffer is tightly sealed to prevent contamination and evaporation. The buffer should be equilibrated to room temperature before use.

Warning and Precautions:

Not intended for medicinal use. Review the Safety Data Sheet (SDS) thoroughly before starting the protocol. Always wear protective gloves, clothing, eye protection, and face protection. Handle tissue samples and cell lysates with care to avoid cross-contamination. Adhere to good clinical laboratory practices when handling clinical samples, and follow standard precautions as outlined in established guidelines. For detailed safety procedures, consult the product's Safety Data Sheet.

Safety Information:

The NP-40 Tissue Lysis Buffer is intended solely for laboratory applications and should not be used for pharmaceuticals, household purposes, or other non-laboratory uses. NP-40 is a mild detergent, but care should be taken to avoid inhalation, ingestion, or contact with skin and eyes. Always observe proper laboratory safety protocols, including wearing gloves and safety goggles when handling the buffer. For details on hazards and safe handling procedures, please consult the Safety Data Sheet (SDS).

Technical Assistance:

At BioPioneer, we are committed to providing top-notch technical support and ensuring its accessibility. For any technical assistance, please email us at qc@biopioneer.in.