

Datasheet for MB-077-0050**10X RIPA Lysis Buffer****Overview**

Description:	10X RIPA Lysis Buffer - MB-077-0050
Item No.:	MB-077-0050
Size:	50 mL
Applications:	ChIP, IP, WB, Other

Product Details

Background:	RIPA (Radio-Immunoprecipitation Assay) Lysis Buffer enables rapid, efficient cell lysis and solubilization of proteins from both adherent and suspension cultured mammalian cells. It has long been a widely used lysis and wash buffer for small-scale affinity pull-down applications, such as immunoprecipitation, since most antibodies and protein antigens are not adversely affected by the components of this buffer. In addition, RIPA Lysis Buffer minimizes non-specific protein-binding interactions to keep background low, while allowing most specific interactions to occur, enabling studies of relevant protein-protein interactions. The following RIPA Lysis Buffer components have the following effects: Tris-HCl is a buffering agent prevents protein denaturation, NaCl is a salt that prevents non-specific protein aggregation, IGEPAL is a non-ionic detergent to extract proteins; Na-deoxycholate and SDS are ionic detergents to extract proteins; and sodium azide is a bacteriostatic agent added to retard bacterial growth. RIPA Lysis Buffer is supplied as a ready-to-use solution that requires no preparation. We suggest that the user add protease and phosphatase inhibitors not included with this product prior to use.
Synonyms:	10X RIPA Lysis Buffer, RIPA (Radio-Immunoprecipitation Assay) Lysis Buffer

Target Details

Purity/Specificity:	This product was aseptically filtered through a Millipore 0.22 micron filter into clean, pre-sterilized containers. The product was tested on trypticase soy agar for 24 hours, 48 hours and 72 hours and was found to be negative for bacteria.
Relevant Links:	RIPA Lysis Buffer Procedure

Application Details

Tested Applications:	ChIP, IP, WB
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Suggested Applications: Other (Based on references)

Application Note: This product is 10X concentrated stock solution. Dilute to 1X prior to use. 1X RIPA Lysis Buffer is intended for the extraction of cellular proteins for the efficient lysis of cells and solubilization of protein, while minimizing protein degradation and maintaining protein immunoreactivity and biological activity. We recommend using 1.0 ml of RIPA Lysis Buffer to lyse 0.5 to 5 x 10⁶ adherent mammalian cells. This buffer contains ionic detergents and may not be suitable for kinase enzymes, if these enzymes are easily denatured. Do not add phosphatase inhibitors when preparing lysates for phosphatase assays. 1X RIPA lysis buffer consists of 50 mM Tris HCl, 150 mM NaCl, 1.0% (v/v) IGEPAL® CA-630, 0.5% (w/v) Sodium Deoxycholate, 1.0 mM EDTA, 0.1% (w/v) SDS and 0.01% (w/v) sodium azide at a pH of 7.4. This buffer was meticulously prepared using ultra pure reagents dissolved in highly polished pharmaceutical grade deionized water.

Protease and phosphatase inhibitors are recommended but not included in product composition.

Recommended final concentrations of protease inhibitors:

1.0 mM Phenylmethylsulfonyl fluoride (PMSF)

10 µM Leupeptin

0.1 µM Aprotinin

1.0 µM Pepstatin

Recommended final concentrations of phosphatase inhibitors:

1.0 mM Na₃VO₄

1.0 mM NaF

Assay Dilutions: All assays should be optimized by the user. Recommended dilutions (if any) may be listed below.

IP: User Optimized

WB: User Optimized

Formulation

Physical State: Liquid (sterile filtered)

Concentration: 10X

Buffer: See application note.

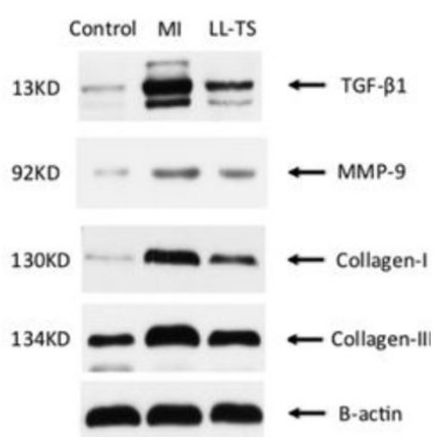
Preservative: 0.01% (w/v) Sodium Azide

Stabilizer: None

Shipping & Handling

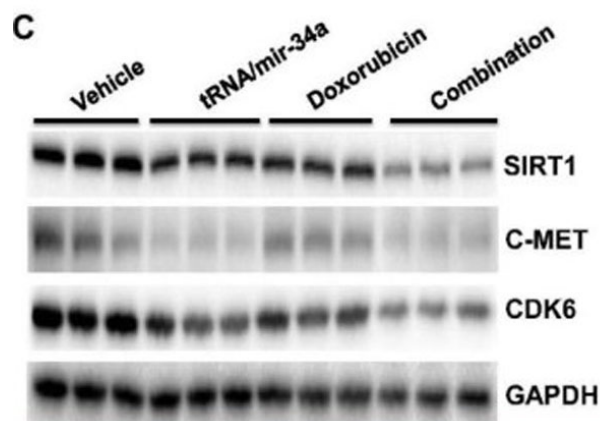
Shipping Condition:	Ambient
Storage Condition:	Store container at room temperature (18° to 26° C) prior to opening. Protect from light (store in the dark).
Expiration:	Expiration date is six (6) months from date of receipt.

Images



Western Blot

Representative picture above of Western blots from LV-free wall tissues in each group (control group, 10; MI group, 5; LL-TS group, 5) showed effects of LL-TS treatment on protein expression level of TGF-β1, MMP-9, collagen I, and collagen III. Transmural myocardial tissue sample ≈1 cm² obtained from the LV free wall outside the infarction area was homogenized in radioimmunoprecipitation assay lysis buffer (p/n MB-077) containing proteinase inhibitor. Fig 5. PMID: 25332149.



Western Blot

Comparison of miR-34a and target oncogene expression levels in 143B cells treated with bioengineered miR-34a prodrug (tRNA/mir-34a) and doxorubicin, alone or in combination. Cells were harvested at 72 h after treatment. Pre-miR-34a. (C) were measured by Western blot. Band density was determined by Image Lab software (Bio-Rad), and normalized to that of GAPDH. Cell lysates were prepared using RIPA buffer (p/n MB-077) supplemented with the complete protease inhibitor cocktail, and protein concentrations were determined using a BCA Protein Assay Kit. Figure 7. PMID: 26518752.



Bottle
 10X RIPA Lysis Buffer

References

- Bhalla M et al. SIRT2 and ALDH1A1 as critical enzymes for astrocytic GABA production in Alzheimer's disease. *Mol Neurodegener.* (2025)
- Nesbitt NM et al. Small molecule BLVRB redox inhibitor promotes megakaryocytopoiesis and stress thrombopoiesis in vivo. *Nat Commun.* (2025)
- Hyun J et al. Strengthening the cellular function of dermal fibroblasts and dermal papilla cells using nanovesicles extracted from stem cells using blue light-based photobiomodulation technology. *Biomatter Sci.* (2025)
- Song Y et al. Unveiling aging heterogeneities in human dermal fibroblasts via nanosensor chemical cytometry. *Nat Commun.* (2025)
- Jeong GH et al. A New Class of Hybrid Anti-inflammatory Agents of Silibinin A Modified Using Gamma Irradiation. *Chem Pharm Bull (Tokyo).* (2025)
- Kim YH et al. Reduction of Low-Density Lipoprotein Cholesterol by Mesenchymal Stem Cells in a Mouse Model of Exogenous Cushing's Syndrome. *Tissue Eng Regen Med.* (2025)
- Kim YJ, et al. Synergistic Ion-Releasing Nanoparticles as a Therapeutic Platform for Modulating Adult Stem Cell Activity in Wound Healing. *Biomater Res.* (2025)
- Kim JU et al. Gold Nanoturf-Mediated Wireless Photothermal Upregulation of Human Adipose-Derived Stem Cell Spheroids for Synergistic Skin-Wound Closure. *Adv Sci (Weinh).* (2025)
- Shin HS et al. RNF213 variant and autophagic impairment: A pivotal link to endothelial dysfunction in moyamoya disease. *J Cereb Blood Flow Metab.* (2024)
- Lee YB et al. Enhancing skin regeneration efficacy of human dermal fibroblasts using carboxymethyl cellulose-coated biodegradable polymer. *Tissue Eng Regen Med.* (2024)
- Peltier S et al. In vitro effects of wound-dressings on key wound healing properties of dermal fibroblasts. *Exp Dermatol.* (2024)

- Lee H et al. Ionizing radiation-induced modification of nialamide as an anti-inflammatory agent against lipopolysaccharide-induced RAW 264.7 and DH82 cells. *Exp Ther Med.* (2024)
- Park A et al. Serum-Free Media Formulation Using Marine Microalgae Extracts and Growth Factor Cocktails for Madin-Darby Canine Kidney and Vero Cell Cultures. *Int J Mol Sci.* (2024)
- Kim JY et al. Combinatory Nanovesicle with siRNA-Loaded Extracellular Vesicle and IGF-1 for Osteoarthritis Treatments. *Int J Mol Sci.* (2024)
- Li Q et al. Nanomodulator-Mediated Restructuring of Adipose Tissue Immune Microenvironments for Antiobesity Treatment. *ACS Nano.* (2024)
- Gastfriend BD et al. Notch3 directs differentiation of brain mural cells from human pluripotent stem cell-derived neural crest. *Sci Adv.* (2024)
- Jeong GH et al. Inhibitory Effects of New Epicatechin Oligomers on Nitric Oxide Production. *Int J Mol Sci.* (2024)
- Oh HN et al. Copper pyrithione and zinc pyrithione induce cytotoxicity and neurotoxicity in neuronal/astrocytic co-cultured cells via oxidative stress. *Sci Rep.* (2023)
- Park J et al. CRISPR/Cas9 mediated specific ablation of vegfa in retinal pigment epithelium efficiently regresses choroidal neovascularization. *Sci Rep.* (2023)
- Qi Y et al. Down-regulating miR-217-5p Protects Cardiomyocytes against Ischemia/Reperfusion Injury by Restoring Mitochondrial Function via Targeting SIRT1. *Inflammation.* (2021)
- Noh BJ et al. Pathogenetic implications of early growth response 1 in Ewing sarcoma. *Pathology.* (2019)
- Yong Zhao et al. Combination therapy with bioengineered miR-34a prodrug and doxorubicin synergistically suppresses osteosarcoma growth. *Biochem Pharmacol.* (2015)
- Zhuo Wang et al. Chronic intermittent low-level transcutaneous electrical stimulation of auricular branch of vagus nerve improves left ventricular remodeling in conscious dogs with healed myocardial infarction. *Circ Heart Fail.* (2014)
- Uemura K et al. Early short-term vagal nerve stimulation attenuates cardiac remodeling after reperfused myocardial infarction. *J Card Fail.* (2010)

Disclaimer

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