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Datasheet for MB-030-0050

1X RIPA Lysis Buffer

Overview

Description:	1X RIPA Lysis Buffer - MB-030-0050
Item No.:	MB-030-0050
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:	1X RIPA Lysis Buffer, 1X RIPA (Radio-Immunoprecipitation Assay) Lysis Buffer, RIPA Buffer

Target Details

Purity/Specificity:	1X RIPA Lysis Buffer 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:	• MB-030 SDS • RIPA Lysis Buffer Procedure • Protocol

Application Details

Tested Applications:	ChIP, IP, WB
Suggested Applications:	Other (Based on references)
Application Note:	RIPA Lysis Buffer is ready-to-use as a working 1X solution and requires no further dilution. 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 10E7 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.

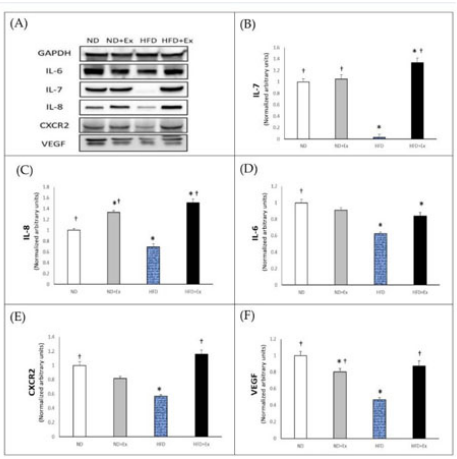
Formulation

Physical State:	Liquid (sterile filtered)
Concentration:	1 X
Buffer:	See application note.
Preservative:	0.01% (w/v) Sodium Azide
Stabilizer:	None

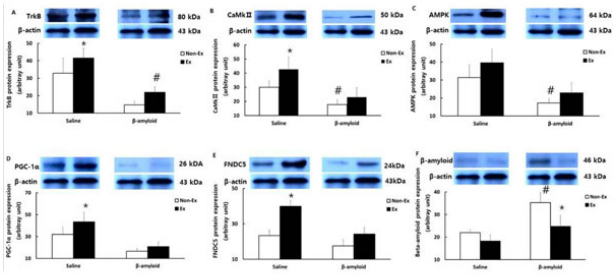
Shipping & Handling

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
Comparison of myokines protein expression in the normal diet, normal diet + exercise, high fat diet, and high fat diet + exercise groups. (A) Myokines levels in skeletal muscle lysates were analyzed by western blot. (B–F) IL-7, IL-8, IL-6, CXCR2, and VEGF levels. Total proteins were extracted using RIPA lysis buffer (p/n MB-030-0050) containing protease inhibitor cocktail, and 10 µg of protein was resolved by sodium dodecyl sulfate-polyacrylamide gel electrophoresis and transferred to nitrocellulose membranes using the Trans-Blot Turbo Transfer System. Results represent the mean ± SE. *, $p < 0.05$ vs. the ND group by one-way ANOVA; †, $p < 0.05$ vs. the HFD group by one-way ANOVA. ND, normal diet; ND+Ex, normal diet + exercise; HFD, high fat diet; HFD+Ex, high fat diet + exercise. Figure 3. PMID: 32295130.



Western Blot
Comparisons of protein expressions of (A) TrkB, (B) CaMkII, (C) AMPK, (D) PGC-1α, (E) FNDC5, and (F) β-amyloid in the cerebral cortex after the 12-week intervention. Total proteins were extracted using RIPA lysis buffer (p/n MB-030-0050) containing a protease inhibitor cocktail, and 10 µg of protein was resolved by sodium dodecyl sulfate-polyacrylamide gel electrophoresis and transferred to nitrocellulose membranes using the Trans-Blot Turbo Transfer System. (* $p < 0.05$ Significant difference as compared to Non-Ex group; # $p < 0.05$ Significant difference as compared to Saline group). Fig 9. PMID: 35805580.



Bottle
1X RIPA Lysis Buffer

References

- Kim MS et al. Aryl hydrocarbon receptor mediates the maintenance and immune regulatory functions of gut-resident macrophages. *Environ Int.* (2026)
- Yoon JP et al. Isotretinoin improves tendon-bone interface healing and inhibits muscle-fatty infiltration through GATA6 activation in a rat model of rotator cuff repair. *J Shoulder Elbow Surg.* (2026)
- Liu Y et al. 3D bioprinted multifunctional GelMA/TMP scaffold integrated with neural stem cell-derived extracellular vesicles and neural progenitor cells for spinal cord injury repair. *J Tissue Eng.* (2026)
- Park HS et al. Nanoparticle-enabled tuning of cell density for enhanced adhesion and tissue repair. *Nat Commun.* (2026)
- Zhang Q et al. Inhibition of Astrocytic JMJD3 Attenuates Neuroinflammation-Mediated Blood-Brain Barrier Disruption and Improves Functional Recovery After Intracerebral Hemorrhage in Mice. *Brain Sci.* (2026)
- Sanjaya SS et al. Tagetes erecta L. polyphenols restore osteogenesis impaired by polystyrene microplastics via NRF2-mediated ER–mitochondrial homeostasis. *Int Immunopharmacol.* (2026)
- So KH et al. Reversibility and therapeutic feasibility of DNM1L-associated neurodevelopmental disorders. *Exp Mol Med.* (2026)
- Boutom SM et al. Notch signaling activation reduces vesicular endocytosis in human pluripotent stem cell-derived CNS-like endothelial cells. *Fluids Barriers CNS.* (2026)
- Kwak AW et al. Licochalcone D reduces H2O2-induced SH-SY5Y cell neurotoxicity by regulating reactive oxygen species. *Front Pharmacol.* (2026)
- Thekke Veedu RR et al. A Structure-guided Active Site Affinity Ligand Unmasks a Stress-Sensitizing Role for BLVRB in the Endoplasmic Reticulum. *J Med Chem.* (2026)
- Son S et al. Amyloid-β aggregates induce vasculopathy via ferroptosis in brain endothelial cells. *Brain Pathol.* (2026)
- Lee SH et al. Thyroid hormone promotes lipid droplet remodeling and lipophagy through KAT2B/PCAF-dependent histone acetylation in preimplantation embryos. *Autophagy.* (2026)

- Jeon J et al. Synergistic effect of combined hyperthermia and radiotherapy mediated by AQP5 reduction in pancreatic cancer. *Int J Hyperthermia.* (2026)
- Hong WC et al. The FOXP1-ABCG2 axis promotes the proliferation of cancer stem cells and induces chemoresistance in pancreatic cancer. *Cancer Gene Ther.* (2025)
- Park JS et al. The long-term influences of age at injury on neuroinflammation and neuronal apoptosis following traumatic brain injury in pediatric and adult mice. *Clin Exp Emerg Med.* (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)
- Kim H et al. Novel-designed antimicrobial peptides with dual antimicrobial and anti-inflammatory actions against Cutibacterium acnes for acne vulgaris therapy. *Biochem Pharmacol.* (2025)
- Sanjaya SS et al. Polyphenol extract from Tagetes erecta L. flowers stimulates osteogenesis via β-catenin activation. *Phytomedicine.* (2025)
- Park G et al. Effects of culture temperature (37° C, 39° C) and oxygen concentration (20%, 2%) on proliferation and differentiation of C2C12 cells. *J Anim Sci Technol.* (2025)
- Yoon JP et al. Metformin inhibits muscle atrophy through the PI3K/AKT/mTOR pathway in a rat model of acute rotator cuff tears. *J Shoulder Elbow Surg.* (2025)
- Dargan R et al. Altered mRNA transport and local translation in i3Neurons with RNA-binding protein knockdown. *Nuclic Acids Res.* (2025)
- Pena-Martinez E et al. Protocol for evaluating the impact of non-coding variants on transcription factor binding and gene expression. *STAR Protoc.* (2025)
- Jung KH et al. A biocompatible elastomeric organic transistor for implantable electronics. *nature electronics.* (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)
- Lee DH et al. Carboxymethyl cellulose-polylactic acid particles for inhibiting anoikis and enhancing wound healing efficacy of human mesenchymal stem cells. *Bioeng Transl Med.* (2025)
- Gwak MG et al. Hypoxia-Inducible Factor Signaling Compensates for Aryl Hydrocarbon Receptor in Maintaining Gut Barrier Integrity. *Inflamm Bowel Dis.* (2025)
- Kwak AW et al. Licochalcone D reduces H2O2-induced SH-SY5Y cell neurotoxicity by regulating reactive oxygen species. *Front Pharmacol.* (2025)
- Marchenko N et al. Biliverdin reductase B as a new target in breast cancer. *Breast Cancer Res.* (2025)
- Navone SE et al. Revealing erythropoietin variant EV-3 as novel driving force and immunotherapeutic target in human glioblastoma. *J Exp Clin Cancer Res.* (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)
- Jeong GH et al. A New Class of Hybrid Anti-inflammatory Agents of Silibinin A Modified Using Gamma Irradiation. *Chem Pharm Bull (Tokyo).* (2025)

- 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)
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