Product Datasheet

Nuclear Extraction Kit
NBP2-29447

Unit Size: 1 Kit

Storage of components varies. See protocol for specific instructions.

www.novusbio.com technical@novusbio.com

Publications: 28

Protocols, Publications, Related Products, Reviews, Research Tools and Images at:
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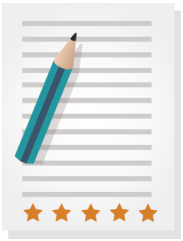


NBP2-29447

Nuclear Extraction Kit

Product Information

Unit Size	1 Kit
Concentration	Concentration is not relevant for this product. Please see the protocols for proper use of this product.
Storage	Storage of components varies. See protocol for specific instructions.

Product Description

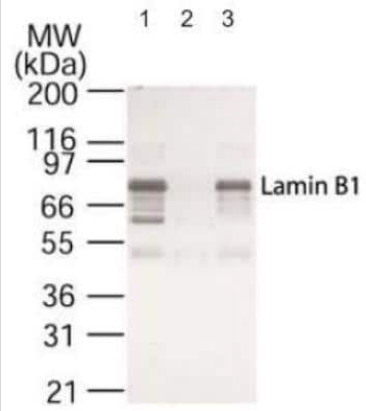
Description	The Nuclear Extraction Kit provides a simple and convenient method for the isolation of nuclear and cytoplasmic extracts from mammalian cells and tissue samples. This procedure is relevant to the monitoring of translocation of cell signaling molecules from cytoplasm to the nucleus. Examples include translocation of NF-kB molecules to the nucleus in TNF-alpha treated cells, and translocation of mitogen-activated protein kinase to the nucleus in growth factor treated cells. The Nuclear Extraction Kit can be used in the preparation of purified proteins for use in Western blotting, Eletrophoretic Mobility Assays (EMSA) and preparative purification of nuclear proteins.
Kit Components	10X Hypotonic Lysis Buffer (10 mL), 1X Nuclear Extraction Buffer (10 mL), 10% Detergent Solution (10 mL), 10X PBS (2 x 50 mL), 1M DTT for nuclear extraction from tissue (100 uL), 100X Protease Inhibitor Cocktail - PIC (100 uL), 100 mM PMSF (10 mL)

Product Application Details

Applications	Western Blot
Recommended Dilutions	Western Blot

Images

Western Blot: Nuclear Extraction Kit [NBP2-29447] - 20 ug of HeLa cell proteins separated on 4-20% SDS-PAGE. Lane 1: Nuclear extract. Lane 2: Cytoplasmic extract. Lane 3: Total cell lysate.



Publications

Jong Ho Park, Amir H Ameri, Kaitlin E Dempsey, Danielle N Conrad, Marina Kem, Mari Mino-Kenudson, Shadmehr Demehri Nuclear IL-33/SMAD signaling axis promotes cancer development in chronic inflammation. The EMBO journal 2021-10-22 [PMID: 33616251]

Chen L, Dai M, Zuo W et al. NF-kB p65 and SETDB1 expedite lipopolysaccharide-induced intestinal inflammation in mice by inducing IRF7/NLR-dependent macrophage M1 polarization International immunopharmacology 2022-12-27 [PMID: 36580757]

Liang Y, Liu X, Zhou R et al. Chaetocin Promotes Osteogenic Differentiation via Modulating Wnt/Beta-Catenin Signaling in Mesenchymal Stem Cells Stem cells international 2021-02-06 [PMID: 33628276]

Awaji M, Saxena S, Wu L et al. CXCR2 signaling promotes secretory cancer-associated fibroblasts in pancreatic ductal adenocarcinoma FASEB J. 2020-05-26 [PMID: 32453916]

Anti-inflammatory effects of astaxanthin in the human gingival keratinocyte line NDUSD-1 Miyachi M, Matsuno T, Asano K J Clin Biochem Nutr [PMID: 26060346]

Tsai TH, Yu CH, Chang YP et al. Protective Effect of Caffeic Acid Derivatives on tert-Butyl Hydroperoxide-Induced Oxidative Hepato-Toxicity and Mitochondrial Dysfunction in HepG2 Cells. Molecules 2017-04-28 [PMID: 28452956] (Human)

Lee HK, Kim ID, Kim SW et al. Anti-inflammatory and anti-excitoxic effects of diethyl oxopropanamide, an ethyl pyruvate bioisoster, exert robust neuroprotective effects in the postischemic brain. Sci Rep. 2017-02-21 [PMID: 28220827] (WB, Human)

Ramamoorthy H, Abraham P, Isaac B, Selvakumar D. Role for NF-kB inflammatory signalling pathway in tenofovir disoproxil fumarate (TDF) induced renal damage in rats Food Chem. Toxicol. 2017-01-01 [PMID: 27899301] (WB)

ARAI M, TSUJI M, TSUCHIYA H. Protective Effects of Fucoidan Against Interleukin-1b-induced Inflammation in SW982 Human Synovial Cells. The Showa University Journal of Medical Sciences. 2014-09-27

Details:
Nuclear Extraction Kit used for isolation of nuclear fraction from SW982 cells (human synovial sarcoma cell line).

Jiang H, He P, Xie J et al. Genetic deletion of TNFRII gene enhances the Alzheimer-like pathology in an APP transgenic mouse model via reduction of phosphorylated IkBalpha. Hum. Mol. Genet. 2014-05-13 [PMID: 24824215] (CellTox, WB, Human)

Details:
APP695 stably transfected 293 cells, Fig 7A. Nuclear and cytoplasmic fractions were probed with NF-kB, IkBa, or p-IkBa antibodies. PARP and beta actin antibodies were used as WB loading controls for the nuclear and cytoplasmic fractions, respectively.

Coleman SJ, Chioni AM, Ghallab M et al. Nuclear translocation of FGFR1 and FGF2 in pancreatic stellate cells facilitates pancreatic cancer cell invasion. EMBO Mol Med. 2014-02-06 [PMID: 24503018] (WB, Human)

Details:
WB & Cell Fractionation: pancreatic cancer cells cell lines, PS1 immortalized pancreatic cell, normal epithelial cells (Figs 2B, 2F, 2M, 3I, 4F). The fraction purity using the Nuclear Extraction kit confirmed with Lamin A/C and tubulin antibodies for the

Li S, Banck M, Mujtaba S et al. p53-induced growth arrest is regulated by the mitochondrial SirT3 deacetylase. PLoS One. 2010-05-05 [PMID: 20463968]

More publications at http://www.novusbio.com/NBP2-29447

Procedures

MSDS (NBP2-29447)

Material Safety Data Sheet for PMSF

Hazard Information
Chemical Name: Phenylmethylsulfonyl fluoride
Chemical Formula: C7H7FO2S
CAS Number: 329-98-6

First Aid Measures
Eye Contact: Can cause slight eye irritation.
Skin Contact: Can cause slight skin irritation.
Inhalation: Can cause slight respiratory tract irritation.
Ingestion: Harmful if swallowed.

Accidental Release Measures
If inhaled, move person into fresh air. If not breathing give artificial respiration and consult a physician.
In case of skin contact, wash off with soap and plenty of water.
In case of eye contact, rinse thoroughly with plenty of water for at least 15 minutes.
If swallowed do NOT induce vomiting. Rinse mouth with water and consult a physician.
Handling and Storage
Handling: Avoid contact with skin and eyes. Keep container tightly closed in a cool, dry, well-ventilated place.
Exposure Controls / Personal Protection
Ventilation: Handle in a well-ventilated area
Gloves: Handle with rubber or latex gloves
Eye Protection: Safety glasses, goggles or face shield

Physical and Chemical Properties
Form: Solid
Color: No data available
Odor: No data available
Melting Point: 92 degrees C (197.6 degrees F)
Boiling Temperature: No data available
Density: No data available
Vapor Pressure: No data available
Solubility in Water: soluble
Flash Point: No data available
Explosion limits: No data available
Ignition Temperature: No data available

Stability and Reactivity
Stable under recommended storage conditions.

Disposal Considerations
Absorb spill and place in a container for disposal according to local regulations.

Material Safety Data Sheet for Protease Inhibitor Cocktail

Hazard Information
Chemical Name: 4-(2-Aminoethyl) benzenesulfonylfluoride hydrochloride
Chemical Formula: C8H10FNO2S HCl
CAS Number: 30827-99-7

First Aid Measures
Eye Contact: Can cause slight eye irritation.
Skin Contact: Can cause slight skin irritation.
Inhalation: Can cause slight respiratory tract irritation.

Ingestion: Harmful if swallowed.

Accidental Release Measures
If inhaled, move person into fresh air. If not breathing give artificial respiration and consult a physician.
In case of skin contact, wash off with soap and plenty of water.
In case of eye contact, rinse thoroughly with plenty of water for at least 15 minutes.
If swallowed do NOT induce vomiting. Rinse mouth with water and consult a physician.

Handling and Storage
Handling: Avoid contact with skin and eyes. Keep container tightly closed in a cool, dry, well-ventilated place.

Exposure Controls / Personal Protection
Ventilation: Handle in a well-ventilated area
Gloves: Handle with rubber or latex gloves
Eye Protection: Safety glasses, goggles or face shield

Physical and Chemical Properties
Form: Solid
Color: beige
Odor: No data available
Melting Point: 183 degrees C (361 degrees F)
Boiling Temperature: No data available
Density: No data available
Vapor Pressure: No data available
Solubility in Water: soluble
Flash Point: No data available
Explosion limits: No data available
Ignition Temperature: No data available

Stability and Reactivity
Stable under recommended storage conditions.

Disposal Considerations
Absorb spill and place in a container for disposal according to local regulations.

Material Safety Data Sheet for Igepal CA-630 (NP-40)

Hazard Information
Chemical Name: Igepal CA-630
Chemical Formula: a-[(1,1,3,3-Tetramethylbutyl)phenyl]-w-hydroxy-poly(oxy-1,2-ethanediyl)
CAS Number: 9036-19-5

First Aid Measures
Eye Contact: Can causes eye irritation.
Skin Contact: Causes skin irritation and is toxic if absorbed through skin.
Inhalation: May be harmful if inhaled. Causes respiratory tract irritation.
Ingestion: Harmful if swallowed.

Accidental Release Measures
If inhaled, move person into fresh air. If not breathing give artificial respiration and consult a physician.
In case of skin contact, wash off with soap and plenty of water.
In case of eye contact, rinse thoroughly with plenty of water for at least 15 minutes.
If swallowed do NOT induce vomiting. Rinse mouth with water and consult a physician.

Handling and Storage
Handling: Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Keep container tightly closed in a cool, dry, well-ventilated place.

Exposure Controls / Personal Protection

Ventilation: Handle in a fume hood to avoid vapors
Gloves: Handle with rubber or latex/nitrile gloves
Eye Protection: Safety goggles

Physical and Chemical Properties
Form: Liquid
Color: No data available
Odor: No data available
Melting Point: No data available
Boiling Temperature: No data available
Density: 1.06 g/mL at 25 degrees C (77 degrees F)
Vapor Pressure: No data available
Solubility in Water: Soluble
Flash Point: No data available
Explosion limits: No data available
Ignition Temperature: No data available

Stability and Reactivity
Stable under recommended storage conditions.

Disposal Considerations
Absorb spill and place in a container for disposal according to local regulations.

Material Safety Data Sheet for Dithiothreitol (DTT)
Hazard Information
Chemical Name: Dithiothreitol
Chemical Formula: C4H10O2S2
CAS Number: 3483-12-3

First Aid Measures
Eye Contact: Can causes eye irritation.
Skin Contact: Causes skin irritation and is toxic if absorbed through skin.
Inhalation: May be harmful if inhaled. Causes respiratory tract irritation.
Ingestion: Harmful if swallowed.

Accidental Release Measures
If inhaled, move person into fresh air. If not breathing give artificial respiration and consult a physician.
In case of skin contact, wash off with soap and plenty of water.
In case of eye contact, rinse thoroughly with plenty of water for at least 15 minutes.
If swallowed do NOT induce vomiting. Rinse mouth with water and consult a physician.

Handling and Storage
Handling: Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Keep container tightly closed in a cool, dry, well-ventilated place.
Exposure Controls / Personal Protection
Ventilation: Handle in a fume hood to avoid vapors
Gloves: Handle with rubber or latex/nitrile gloves
Eye Protection: Safety goggles
Physical and Chemical Properties
Form: Liquid
Color: No data available
Odor: No data available
Melting Point: No data available
Boiling Temperature: No data available
Density: No data available
Vapor Pressure: No data available
Solubility in Water: Soluble
Flash Point: NA
Explosion limits: NA

Ignition Temperature: No data available

Stability and Reactivity
Stable under recommended storage conditions.

Disposal Considerations
Absorb spill and place in a container for disposal according to local regulations.

Material Safety Data Sheet for TRITON X-100

Hazard Information
Chemical Name: TRITON X-100
Chemical Formula: (C2-H4-O)nC14-H22-O
CAS Number: 9002-93-1
EEC-No: n/a

First Aid Measures
Eye Contact: Can causes eye irritation.
Skin Contact: Causes skin irritation and is toxic if absorbed through skin.
Inhalation: May be harmful if inhaled. Causes respiratory tract irritation.
Ingestion: Harmful if swallowed.

Accidental Release Measures
If inhaled, move person into fresh air. If not breathing give artificial respiration and consult a physician.
In case of skin contact, wash off with soap and plenty of water.
In case of eye contact, rinse thoroughly with plenty of water for at least 15 minutes.
If swallowed do NOT induce vomiting. Rinse mouth with water and consult a physician.

Handling and Storage
Handling: Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Handle powder in a fume hood.
Keep container tightly closed in a cool, dry, well-ventilated place.

Exposure Controls / Personal Protection
Ventilation: Handle in a well-ventilated area
Gloves: Handle with rubber or latex gloves
Eye Protection: Safety glasses, goggles or face shield to protect from splash hazard

Physical and Chemical Properties
Form: Liquid
Color: Colorless
Odor: Odorless
Melting Point: 6 degrees C (42.8 degrees F)
Boiling Temperature: 270 degrees C (518 degrees F)
Density: No data available
Vapor Pressure: No data available
Solubility in Water: Very soluble
Flash Point: No data available
Explosion limits: No data available
Ignition Temperature: No data available

Stability and Reactivity
Stable under recommended storage conditions.
Disposal/Spill Considerations
Absorb spill and place in a container for disposal according to local regulations.

Material Safety Data Sheet for EDTA

Hazard Information
Chemical Name: Ethylenediaminetetraacetic Acid Tetrasodium Salt, Dihydrate

Chemical Formula: C10H12N2Na4O8.2H2O
CAS Number: 10378-23-1

First Aid Measures
Eye Contact: Can cause slight eye irritation.
Skin Contact: Can cause slight skin irritation.
Inhalation: Can cause slight respiratory tract irritation.
Ingestion: Harmful if swallowed.

Accidental Release Measures
If inhaled, move person into fresh air. If not breathing give artificial respiration and consult a physician.
In case of skin contact, wash off with soap and plenty of water.
In case of eye contact, rinse thoroughly with plenty of water for at least 15 minutes.
If swallowed do NOT induce vomiting. Rinse mouth with water and consult a physician.
Handling and Storage
Handling: Avoid contact with skin and eyes. Keep container tightly closed in a cool, dry, well-ventilated place.

Exposure Controls / Personal Protection
Ventilation: Handle in a well-ventilated area
Gloves: Handle with rubber or latex gloves
Eye Protection: Safety glasses, goggles or face shield

Physical and Chemical Properties
Form: Solid
Color: White
Odor: No data available
Melting Point: No data available
Boiling Temperature: No data available
Density: No data available
Vapor Pressure: No data available
Solubility in Water: soluble
Flash Point: > 93.3 degrees C (200 degrees F)
Explosion limits: No data available
Ignition Temperature: No data available

Stability and Reactivity
Stable under recommended storage conditions.

Disposal Considerations
Absorb spill and place in a container for disposal according to local regulations.

Novus Biologicals USA
10730 E. Briarwood Avenue
Centennial, CO 80112
USA
Phone: 303.730.1950
Toll Free: 1.888.506.6887
Fax: 303.730.1966
nb-customerservice@bio-techne.com

Bio-Techne Canada
21 Canmotor Ave
Toronto, ON M8Z 4E6
Canada
Phone: 905.827.6400
Toll Free: 855.668.8722
Fax: 905.827.6402
canada.inquires@bio-techne.com

Bio-Techne Ltd
19 Barton Lane
Abingdon Science Park
Abingdon, OX14 3NB, United Kingdom
Phone: (44) (0) 1235 529449
Free Phone: 0800 37 34 15
Fax: (44) (0) 1235 533420
info.EMEA@bio-techne.com

General Contact Information
www.novusbio.com
Technical Support: nb-technical@bio-techne.com
Orders: nb-customerservice@bio-techne.com
General: novus@novusbio.com

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