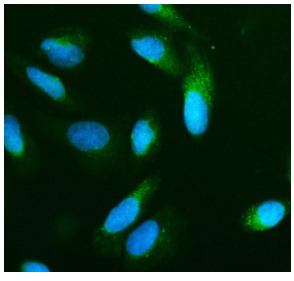
BNIP3L Antibody / NIX / BCL2/adenovirus E1B 19 kDa-interacting protein 3-like (FY13212)

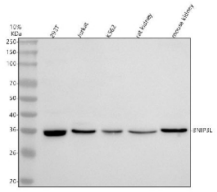
Catalog No.	Formulation	Size
FY13212	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

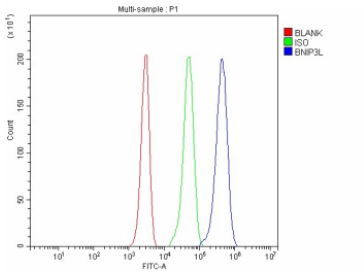
Availability	1-2 days
Species Reactivity	Human, Mouse, Rat
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	O60238
Localization	Mitochondria, nuclear speckles
Applications	Western Blot: 0.25-0.5ug/ml Immunocytochemistry/Immunofluorescence: 5ug/ml Flow cytometry: 1-3ug/million cells
Limitations	This BNIP3L antibody is available for research use only.



Immunofluorescent staining of BNIP3L using anti-BNIP3L antibody (green). BNIP3L was detected in an immunocytochemical section of U2OS cells. Enzyme antigen retrieval was performed using IHC enzyme antigen retrieval reagent for 15 mins. The cells were blocked with 10% goat serum. And then incubated with 5 ug/ml rabbit anti-BNIP3L antibody overnight at 4oC. DyLight 488 Conjugated Goat Anti-Rabbit IgG was used as secondary antibody at 1:500 dilution and incubated for 30 minutes at 37oC. The section was counterstained with DAPI nuclear stain (blue). Visualize using a fluorescence microscope and filter sets appropriate for the label used.



Western blot analysis of BNIP3L using anti-BNIP3L antibody. Lane 1: human 293T whole cell lysates, Lane 2: human Jurkat whole cell lysates, Lane 3: human K562 whole cell lysates, Lane 4: rat kidney tissue lysates, Lane 5: mouse kidney tissue lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-BNIP3L antibody at 0.5 ug/ml overnight at 4oC, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal was developed using enhanced chemiluminescent. Western blot detection of BNIP3L (NIX) shows a single band at ~35 kDa across cell and tissue lysates. Despite a calculated mass of ~24-26 kDa, BNIP3L commonly migrates at ~32-36 kDa due to its transmembrane domain and phosphorylation-dependent mobility.



Flow Cytometry analysis of human JK cells using anti-BNIP3L antibody. Overlay histogram showing JK cells stained with (Blue line). To facilitate intracellular staining, cells were fixed with 4% paraformaldehyde and permeabilized with permeabilization buffer. The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-BNIP3L antibody (1 ug/million cells) for 30 min at 20oC. DyLight 488 conjugated goat anti-rabbit IgG (5-10 ug/million cells) was used as secondary antibody for 30 minutes at 20oC. Isotype control antibody (Green line) was rabbit IgG (1 ug/million cells) used under the same conditions. Unlabelled sample without incubation with primary antibody and secondary antibody (Red line) was used as a blank control.

Description

BNIP3L antibody detects BCL2/adenovirus E1B 19 kDa-interacting protein 3-like, also known as NIX or NIP3L, a mitochondrial outer membrane protein that regulates apoptosis, mitophagy, and hypoxia adaptation. The UniProt recommended name is BCL2/adenovirus E1B 19 kDa-interacting protein 3-like (BNIP3L). Functionally identical to NIX, this pro-apoptotic factor is a key effector of mitochondrial quality control, mediating the selective autophagic removal of damaged mitochondria under stress conditions.

NIX antibody detects the same 263-amino-acid integral membrane protein localized to the outer mitochondrial membrane. BNIP3L interacts with members of the BCL2 family and contains an LC3-interacting region (LIR) motif that recruits autophagosomes to mitochondria during mitophagy. Under hypoxic conditions, NIX (BNIP3L) expression is upregulated by hypoxia-inducible factor 1-alpha (HIF1A), initiating mitophagy and limiting reactive oxygen species accumulation. This mechanism is vital for maintaining mitochondrial integrity and metabolic adaptation during oxygen deprivation.

The BNIP3L (NIX) gene resides on chromosome 8p21.2 and is expressed in energy-demanding tissues such as heart, skeletal muscle, and brain. Its transcriptional regulation integrates stress and metabolic cues through signaling pathways including HIF1A, FOXO3, and PGC1A, linking mitochondrial turnover with cellular homeostasis and survival responses.

Pathologically, BNIP3L/NIX plays dual roles in determining cell fate: promoting mitophagy and survival under transient stress, but driving apoptosis during sustained hypoxia or mitochondrial damage. Aberrant regulation of this pathway contributes to cardiomyopathy, neurodegeneration, and tumor resistance to therapy. In cancer biology, elevated NIX (BNIP3L) expression enhances mitochondrial clearance, supporting metabolic flexibility within hypoxic tumor microenvironments. Research using BNIP3L antibody and NIX antibody supports investigations in apoptosis, autophagy, and mitochondrial signaling mechanisms.

This antibody is validated for western blotting, immunofluorescence, and flow cytometry to detect mitophagy-related proteins. NSJ Bioreagents provides BNIP3L/NIX antibody reagents optimized for studies in hypoxia signaling, mitochondrial biology, and programmed cell death.

Structurally, BCL2/adenovirus E1B 19 kDa-interacting protein 3-like (NIX) contains a C-terminal transmembrane domain

for mitochondrial localization, a BH3-like domain mediating interactions with BCL2 family members, and an LIR motif enabling autophagosome docking. This antibody supports exploration of BNIP3L/NIX function in balancing mitophagy and apoptosis during cellular stress.

Application Notes

Optimal dilution of the BNIP3L antibody should be determined by the researcher.

Immunogen

A synthetic peptide corresponding to a sequence in the middle region of human BNIP3L was used as the immunogen for the BNIP3L antibody.

Storage

After reconstitution, the BNIP3L antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

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