

Anti-BAK/BAK1 Antibody Picoband™ (monoclonal, 4C2)

Catalog # ABO14868

Product Information

Application	WB, IHC, IF, ICC, FC
Primary Accession	Q16611
Host	Mouse
Isotype	Mouse IgG2b
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Format	Lyophilized
Description	Anti-BAK/BAK1 Antibody Picoband™ (monoclonal, 4C2) . Tested in Flow Cytometry, IF, IHC, ICC, WB applications. This antibody reacts with Human, Mouse, Rat.
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500 µg/ml.

Additional Information

Gene ID	578
Other Names	Bcl-2 homologous antagonist/killer, Apoptosis regulator BAK, Bcl-2-like protein 7, Bcl2-L-7, BAK1, BAK, BCL2L7, CDN1
Calculated MW	23409
Application Details	Western blot, 0.1-0.5 µg/ml Immunohistochemistry (Paraffin-embedded Section), 0.5-1 µg/ml Immunocytochemistry/Immunofluorescence, 2 µg/ml Flow Cytometry, 1-3 µg/1x10 ⁶ cells
Subcellular Localization	Mitochondrion outer membrane. Single-pass membrane protein.
Tissue Specificity	Expressed in a wide variety of tissues, with highest levels in the heart and skeletal muscle.
Source	Eukaryota
Contents	Each vial contains 4mg Trehalose, 0.9mg NaCl, 0.2mg Na ₂ HPO ₄ , 0.05mg NaN ₃ .
Clone Names	Clone: 4C2
Immunogen	E.coli-derived human BAK/BAK1 recombinant protein (Position: A22-S211). Human BAK shares 78.3 % amino acid (aa) sequence identity with mouse BAK.
Cross Reactivity	No cross-reactivity with other proteins.
Storage	Store at -20 °C for one year from date of receipt. After reconstitution, at 4 °C

for one month. It can also be aliquotted and stored frozen at -20 °C for six months. Avoid repeated freeze-thaw cycles.

Protein Information

Name	BAK1
Synonyms	BAK, BCL2L7, CDN1
Function	Plays a role in the mitochondrial apoptotic process. Upon arrival of cell death signals, promotes mitochondrial outer membrane (MOM) permeabilization by oligomerizing to form pores within the MOM. This releases apoptogenic factors into the cytosol, including cytochrome c, promoting the activation of caspase 9 which in turn processes and activates the effector caspases.
Cellular Location	Mitochondrion outer membrane; Single-pass membrane protein
Tissue Location	Expressed in a wide variety of tissues, with highest levels in the heart and skeletal muscle

Background

BAK, officially called Bcl2 antagonist killer, is a protein that in humans, encoded by the BAK gene. The BAK protein is a pro-apoptotic member of the Bcl-2 gene family which is involved in initiating apoptosis. BAK gene spans 7.6 kb and contains 6 exons. By Southern blot analysis of genomic DNA from human/rodent somatic cell hybrids, BAK gene is localized to chromosome 6. This protein localizes to mitochondria, and functions to induce apoptosis. It interacts with and accelerates the opening of the mitochondrial voltage-dependent anion channel, which leads to a loss in membrane potential and the release of cytochrome. This protein also interacts with the tumor suppressor P53 after exposure to cell stress.

Images

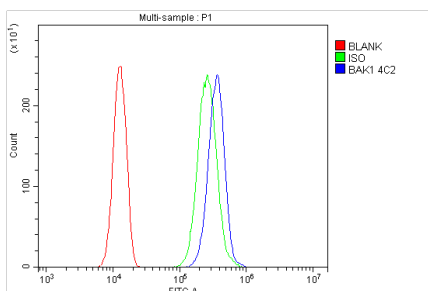


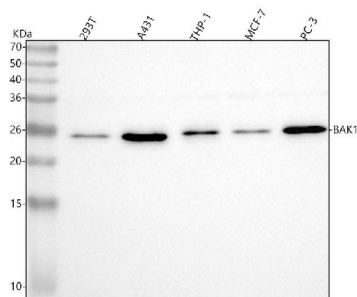
Figure 10. Flow Cytometry analysis of SiHa cells using anti-BAK1 antibody (M01163-1).

Overlay histogram showing SiHa cells stained with M01163-1 (Blue line). The cells were blocked with 10% normal goat serum. And then incubated with mouse anti-BAK1 Antibody (M01163-1, 1 µg/1x10⁶ cells) for 30 min at 20°C. DyLight®488 conjugated goat anti-mouse IgG (BA1126, 5-10 µg/1x10⁶ cells) was used as secondary antibody for 30 minutes at 20°C. Isotype control antibody (Green line) was mouse IgG (1 µg/1x10⁶) used under the same conditions. Unlabelled sample (Red line) was also used as a control.

Figure 1. Western blot analysis of BAK/BAK1 using anti-BAK/BAK1 antibody (M01163-1).

Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 30 µg of sample under reducing conditions.

Lane 1: human 293T whole cell lysates,
Lane 2: human A431 whole cell lysates,
Lane 3: human THP-1 whole cell lysates,
Lane 4: human MCF-7 whole cell lysates,



Lane 5: human PC-3 whole cell 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 mouse anti-BAK/BAK1 antigen affinity purified monoclonal antibody (Catalog # M01163-1) at 0.5 µg/mL overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-mouse IgG-HRP secondary antibody at a dilution of 1:10000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1001) with Tanon 5200 system. A specific band was detected for BAK/BAK1 at approximately 25 kDa. The expected band size for BAK/BAK1 is at 23 kDa.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.