SANTA CRUZ BIOTECHNOLOGY, INC.

NOXA (N-15): sc-26917

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Members of the Bcl-2 family of proteins interact to regulate programmed cell death (apoptosis) under a broad range of physiological conditions. Bcl-2, Bcl-x_L, and several related proteins inhibit apoptosis, whereas other members of the Bcl-2 family, such as Bax and Bak, enhance cell death. NOXA, a pro-apoptotic member of the Bcl-2 family, contains the Bcl-2 homology 3 (BH3) region, but does not contain other BH domains. Murine cells constitutively express NOXA mRNA in small amounts in various organs; X-ray irradiation increases NOXA mRNA and protein expression levels. In human cells, NOXA, alternatively designated PMA-induced protein 1 or APR, displays high expression in the adult T cell leukemia cell line IKD, where it may function as an immediate-early-response gene. The NOXA protein selectively localizes to mitochondria.

CHROMOSOMAL LOCATION

Genetic locus: PMAIP1 (human) mapping to 18q21.32.

SOURCE

NOXA (N-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of NOXA of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-26917 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

APPLICATIONS

NOXA (N-15) is recommended for detection of NOXA of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for NOXA siRNA (h): sc-37305, NOXA shRNA Plasmid (h): sc-37305-SH and NOXA shRNA (h) Lentiviral Particles: sc-37305-V.

Molecular Weight of NOXA: 15 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, U-937 cell lysate: sc-2239 or HuT 78 whole cell lysate: sc-2208.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Tian, Z., et al. 2008. Dulxanthone A induces cell cycle arrest and apoptosis via up-regulation of p53 through mitochondrial pathway in Hep G2 cells. Int. J. Cancer 122: 31-38.
2. Hassan, M., et al. 2008. The BH3-only member Noxa causes apoptosis in melanoma cells by multiple pathways. Oncogene 27: 4557-4568.
3. Hu, Z.Y., et al. 2008. ApoG2, a novel inhibitor of antiapoptotic Bcl-2 family proteins, induces apoptosis and suppresses tumor growth in nasopharyngeal carcinoma xenografts. Int. J. Cancer 123: 2418-2429.
4. Francipane, M.G., et al. 2009. Suppressor of cytokine signaling 3 sensitizes anaplastic thyroid cancer to standard chemotherapy. Cancer Res. 69: 6141-6148.
5. Besch, R., et al. 2009. Proapoptotic signaling induced by RIG-I and MDA-5 results in type I interferon-independent apoptosis in human melanoma cells. J. Clin. Invest. 119: 2399-2411.
6. Premkumar, D.R., et al. 2011. Bortezomib-induced sensitization of malignant human glioma cells to vorinostat-induced apoptosis depends on reactive oxygen species production, mitochondrial dysfunction, Noxa upregulation, Mcl-1 cleavage, and DNA damage. Mol. Carcinog. 52: 118-133.
7. Liu, W., et al. 2011. Estrogen-mediated upregulation of Noxa is associated with cell cycle progression in estrogen receptor-positive breast cancer cells. PLoS One 6: e29466.
8. Premkumar, D.R., et al. 2012. ABT-737 synergizes with bortezomib to induce apoptosis, mediated by Bid cleavage, Bax activation, and mitochondrial dysfunction in an Akt-dependent context in malignant human glioma cell lines. J. Pharmacol. Exp. Ther. 341: 859-872.
9. Craxton, A., et al. 2012. NOXA, a sensor of proteasome integrity, is degraded by 26S proteasomes by an ubiquitin-independent pathway that is blocked by MCL-1. Cell Death Differ. 19: 1424-1434.