SANTA CRUZ BIOTECHNOLOGY, INC.

PUMAα (N-19): sc-19187

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

PUMA (Bcl-2 binding component 3, JFY1, PUMA/JFY1) is a mitochondrial pro-apoptotic Bcl-2 homology domain (BH3)-only protein that induces rapid apoptosis through a Bax- and mitochondria-dependent pathway. The PUMA gene encodes four proteins originating from different splice variants of the same transcript: PUMAα, β, γ and δ. Both PUMAα and PUMAβ contain a BH3 domain, while PUMAγ and PUMAδ lack this domain. The BH3 domain is essential for binding of PUMAα and PUMAβ to Bcl-2 or Bcl-x_L. PUMA is an initiator of gamma-radiation apoptosis and glucocorticoid-induced apoptosis in lymphoid cells *in vivo*. Bcl-2 family members generally regulate apoptosis and transmit death signals to mitochondria. Members of this family include both pro- and anti-apoptotic proteins that share homologous sequences known as Bcl-2 homology domains (BH1-4). The BH3 proteins, BID, NOXA, PUMA, NBK, Bim and Bad, are all pro-apoptotic and share sequence homology within the amphipathic α-helical BH3 region.

CHROMOSOMAL LOCATION

Genetic locus: BBC3 (human) mapping to 19q13.32; Bbc3 (mouse) mapping to 7 A2.

SOURCE

PUMAα (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of PUMAα of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-19187 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

PUMAα (N-19) is recommended for detection of PUMAα of mouse, rat and 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).

PUMAα (N-19) is also recommended for detection of PUMAα in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for PUMA siRNA (h): sc-37153, PUMA siRNA (m): sc-37154, PUMA shRNA Plasmid (h): sc-37153-SH, PUMA shRNA Plasmid (m): sc-37154-SH, PUMA shRNA (h) Lentiviral Particles: sc-37153-V and PUMA shRNA (m) Lentiviral Particles: sc-37154-V.

Molecular Weight of PUMAα: 18-24 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, K-562 whole cell lysate: sc-2203 or MOLT-4 cell lysate: sc-2233.

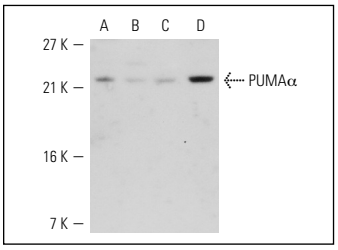
RESEARCH USE

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

STORAGE

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

DATA



PUMAα (N-19): sc-19187. Western blot analysis of PUMAα expression in K-562 (**A**), Jurkat (**B**), MOLT-4 (**C**) and U-937 (**D**) whole cell lysates.

SELECT PRODUCT CITATIONS

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4. Le Floch, N., et al. 2010. The $p76^{Rb}$ and $p100^{Rb}$ truncated forms of the Rb protein exert antagonistic roles on cell death regulation in human cell lines. Biochem. Biophys. Res. Commun. 399: 173-178.
5. Ahn, B.Y., et al. 2010. Tid1 is a new regulator of p53 mitochondrial translocation and apoptosis in cancer. Oncogene 29: 1155-1166.
6. Tolde, O. and Folk, P. 2011. Stress-induced expression of p53 target genes is insensitive to SNW1/SKIP downregulation. Cell. Mol. Biol. Lett. 16: 373-384.
7. Bai, L., et al. 2014. BM-1197: a novel and specific Bcl-2/Bcl-x_L inhibitor inducing complete and long-lasting tumor regression *in vivo*. PLoS ONE 9: e99404.
8. Liu, Z., et al. 2015. Bim and VDAC1 are hierarchically essential for mitochondrial ATF2 mediated cell death. Cancer Cell Int. 15: 34.
9. Zhang, H., et al. 2016. Synergistic tumor suppression by adenovirus-mediated ING4/PTEN double gene therapy for gastric cancer. Cancer Gene Ther. 23: 13-23.