

# PUMA $\alpha$ / $\beta$ (G-16): sc-19188

## 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: PUMA $\alpha$ ,  $\beta$ ,  $\gamma$  and  $\delta$ . Both PUMA $\alpha$  and PUMA $\beta$  contain a BH3 domain, while PUMA $\gamma$  and PUMA $\delta$  lack this domain. The BH3 domain is essential for binding of PUMA $\alpha$  and PUMA $\beta$  to Bcl-2 or Bcl-x<sub>L</sub>. 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  $\alpha$ -helical BH3 region.

## REFERENCES

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## CHROMOSOMAL LOCATION

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

## SOURCE

PUMA $\alpha$ / $\beta$  (G-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of PUMA $\alpha$  of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-19188 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

PUMA $\alpha$ / $\beta$  (G-16) is recommended for detection of PUMA $\alpha$  and PUMA $\beta$  of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 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 PUMA $\alpha$ : 18-24 kDa.

Positive Controls: K-562 nuclear extract: sc-2130, Jurkat whole cell lysate: sc-2204 or MOLT-4 cell lysate: sc-2233.

## 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) 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.

## 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.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.



Try **PUMA $\alpha$ / $\beta$  (G-3): sc-374223**, our highly recommended monoclonal alternative to PUMA $\alpha$ / $\beta$  (G-16).