

BPI (D-20): sc-23292

BACKGROUND

The bactericidal permeability increasing protein (BPI) is an antibacterial and endotoxin-neutralizing molecule that is abundant in the granules of polymorphonuclear leukocytes (neutrophil granules). The 31.5 kb long human BPI gene maps to chromosome 20q11.23-q12, contains 15 exons, and encodes a 456 amino acid protein that ranges in size between 50-60 kDa. Epithelial cells which line mucosal surfaces are the first line of defense against bacterial invasion and infection. BPI localizes to the cell surface of epithelial cells and blocks endotoxin-mediated signaling, thereby protecting mucosal surfaces against gram-negative bacteria and their endotoxin. BPI, lipopolysaccharide binding protein (LBP), phospholipid transfer protein (PLTP), and cholesteryl ester transfer protein (CETP) constitutes a family of functionally related proteins.

REFERENCES

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3. Schumann, R. R., et al. 1990. Structure and function of lipopolysaccharide binding protein. *Science* 249: 1429-1431.
4. Gray, P.W., et al. 1993. The genes for the lipopolysaccharide binding protein (LBP) and the bactericidal permeability increasing protein (BPI) are encoded in the same region of human chromosome 20. *Genomics* 15: 188-190.
5. Hubacek, J.A., et al. 1997. The genomic organization of the genes for human lipopolysaccharide binding protein (LBP) and bactericidal permeability increasing protein (BPI) is highly conserved. *Biochem. Biophys. Res. Comm.* 236: 427-430.
6. Beamer, L.J., et al. 1997. Crystal structure of human BPI and two bound phospholipids at 2.4 angstrom resolution. *Science* 276: 1861-1864.
7. Canny, G., et al. 2002. Lipid mediator-induced expression of bactericidal/permeability-increasing protein (BPI) in human mucosal epithelia. *Proc. Natl. Acad. Sci. USA* 99: 3902-3907.

SOURCE

BPI (D-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping to the elastase cleavage site of BPI 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-23292 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

BPI (D-20) is recommended for detection of BPI 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 BPI siRNA (h): sc-42738, BPI shRNA Plasmid (h): sc-42738-SH and BPI shRNA (h) Lentiviral Particles: sc-42738-V.

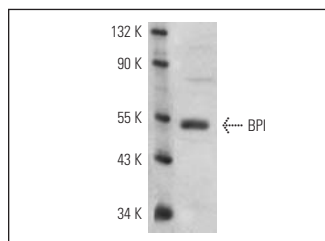
Molecular Weight of BPI: 50-60 kDa.

Positive Controls: HL-60 whole cell lysate: sc-2209.

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.

DATA



BPI (D-20): sc-23292. Western blot analysis of BPI expression in HL-60 whole cell lysate.

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 or our catalog for detailed protocols and support products.