

## BPI (K-15): sc-23293

### 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, contains 15 exons, and encodes a 456 amino acid protein. 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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2. Gray, P.W., et al. 1989. Cloning of the cDNA of a human neutrophil bactericidal protein. Structural and functional correlations. *J. Biol. Chem.* 264: 9505-9509.
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.

### CHROMOSOMAL LOCATION

Genetic locus: BPI (human) mapping to 20q11.23.

### SOURCE

BPI (K-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus 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-23293 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

### APPLICATIONS

BPI (K-15) is recommended for detection of BPI of 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).

BPI (K-15) is also recommended for detection of BPI in additional species, including porcine.

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 or CCRF-CEM cell lysate: sc-2225.

### 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.