

BPI (H-10): sc-514212

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

- Ooi, C.E., et al. 1987. A 25-kDa NH₂-terminal fragment carries all the antibacterial activities of the human neutrophil 60-kDa bactericidal/permeability-increasing protein. *J. Biol. Chem.* 262: 14891-14894.
- 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.
- Schumann, R.R., et al. 1990. Structure and function of lipopolysaccharide binding protein. *Science* 249: 1429-1431.

CHROMOSOMAL LOCATION

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

SOURCE

BPI (H-10) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 229-253 to the elastase cleavage site of BPI of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

BPI (H-10) is available conjugated to agarose (sc-514212 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-514212 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514212 PE), fluorescein (sc-514212 FITC), Alexa Fluor® 488 (sc-514212 AF488), Alexa Fluor® 546 (sc-514212 AF546), Alexa Fluor® 594 (sc-514212 AF594) or Alexa Fluor® 647 (sc-514212 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-514212 AF680) or Alexa Fluor® 790 (sc-514212 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-514212 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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RESEARCH USE

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

APPLICATIONS

BPI (H-10) is recommended for detection of BPI of human origin by Western Blotting (starting dilution 1:100, 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.

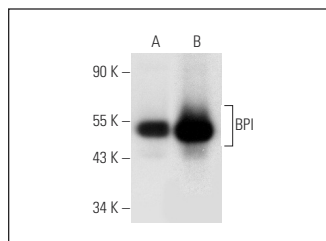
Molecular Weight of BPI: 50-60 kDa.

Positive Controls: HL-60 whole cell lysate: sc-2209 or AML-193 whole cell lysate: sc-364182.

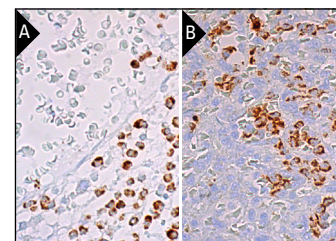
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



BPI (H-10): sc-514212. Western blot analysis of BPI expression in HL-60 (A) and AML-193 (B) whole cell lysates.



BPI (H-10): sc-514212. Immunoperoxidase staining of formalin fixed, paraffin-embedded human bone marrow tissue showing cytoplasmic staining in a subset of hematopoietic cells (A) and human spleen tissue showing cytoplasmic staining in a subset of cells in red pulp (B). Blocked with 0.25X UltraCruz® Blocking Reagent: sc-516214. Detection reagents used: m-IgGκ BP-B: sc-516142 and ImmunoCruz® ABC Kit: sc-516216.

SELECT PRODUCT CITATIONS

- Fee, L.T., et al. 2021. C3d elicits neutrophil degranulation and decreases endothelial cell migration, with implications for patients with α-1 antitrypsin deficiency. *Biomedicines* 9: 1925.

STORAGE

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