

EPX (S-20): sc-19148

BACKGROUND

Eosinophil peroxidase (EPX) is an antimycobacterial protein that localizes to cytoplasmic granules of eosinophils and recruits bromide to generate a halogenating oxidant. EPX-dependent generation of hypobromous acid causes damage to tissue during inflammatory conditions that include asthma, allergies, cancer and parasitic/helminthic infections. Human EPX gene product can form a tetramer of two light chains and two heavy chains. EPX is a major enzyme present in eosinophils and upon degranulation, becomes released into the airways of asthmatics. As a result of its cationic nature and its ability to catalyze the formation of highly toxic oxidants, EPX can induce lung injury in a JNK-dependent manner. Other peroxidase family members include myeloperoxidase (MPO), lacto-peroxidase (LPO) and thyroid peroxidase (TPO).

REFERENCES

1. Ten, R.M., et al. 1989. Molecular cloning of the human eosinophil peroxidase. Evidence for the existence of a peroxidase multigene family. *J. Exp. Med.* 169: 1757-1769.
2. Kleine, T.J., et al. 1999. Eosinophil peroxidase increases membrane permeability in mammalian urinary bladder epithelium. *Am. J. Physiol.* 276: C638-C647.
3. Wu, W., et al. 1999. Eosinophil peroxidase nitrates protein tyrosyl residues. Implications for oxidative damage by nitrating intermediates in eosinophilic inflammatory disorders. *J. Biol. Chem.* 274: 25933-25944.
4. Lincoln, J.A., et al. 1999. Enzymatically inactive eosinophil peroxidase inhibits proinflammatory cytokine transcription and secretion by macrophages. *Cell. Immunol.* 196: 23-33.
5. Sakamaki, K., et al. 2000. The eosinophil peroxidase gene forms a cluster with the genes for myeloperoxidase and lactoperoxidase on human chromosome 17. *Cytogenet. Cell Genet.* 88: 246-248.
6. Henderson, J.P., et al. 2001. Bromination of deoxycytidine by eosinophil peroxidase: a mechanism for mutagenesis by oxidative damage of nucleotide precursors. *Proc. Natl. Acad. Sci. USA* 98: 1631-1636.

CHROMOSOMAL LOCATION

Genetic locus: EPX (human) mapping to 17q22; Epx (mouse) mapping to 11 C.

SOURCE

EPX (S-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of EPX 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-19148 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

EPX (S-20) is recommended for detection of EPX (eosinophil peroxidase) 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

EPX (S-20) is also recommended for detection of EPX (eosinophil peroxidase) in additional species, including equine, canine and porcine.

Suitable for use as control antibody for EPX siRNA (h): sc-60014, EPX siRNA (m): sc-60015, EPX shRNA Plasmid (h): sc-60014-SH, EPX shRNA Plasmid (m): sc-60015-SH, EPX shRNA (h) Lentiviral Particles: sc-60014-V and EPX shRNA (m) Lentiviral Particles: sc-60015-V.

Molecular Weight of EPX monomer: 70 kDa.

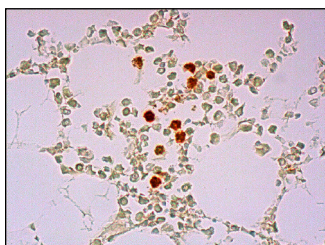
Molecular Weight of EPX heavy chain: 55 kDa.

Molecular Weight of EPX light chain: 15 kDa.

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. 3) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



EPX (S-20): sc-19148. Immunoperoxidase staining of formalin fixed, paraffin-embedded human bone marrow tissue showing cytoplasmic staining of a subset of hematopoietic cells.

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.