

# EMBP (M-223): sc-33557

## BACKGROUND

The eosinophil major basic protein (EMBP), also designated MBP, PRG2, proteoglycan 2, BMPG or bone marrow natural killer cell activator, is a constituent of the crystalline core of the eosinophil granule. High levels of the pro-EMBP are present in placenta and pregnancy serum, where it exists as a complex with several other proteins including pregnancy-associated plasma protein A (PAPPA), angiotensinogen (AGT) and C3dg. EMBP may influence antiparasitic defense mechanisms as a cytotoxin and helminthotoxin, and may play a role in immune hypersensitivity reactions. EMBP stimulates an Src kinase-dependent activation of class I (A) phosphoinositide 3-kinase and, in turn, activation of protein kinase C  $\zeta$  in neutrophils. EMBP transcription is under regulation by novel combinatorial interactions of GATA-1, PU.1 and C/EBP $\epsilon$  isoforms.

## REFERENCES

1. Popken-Harris, P., et al. 1995. Expression, purification, and characterization of the recombinant proform of eosinophil granule major basic protein. *J. Immunol.* 155: 1472-1480.
2. Mujtaba, M.G., et al. 1997. CD4 T suppressor cells mediate interferon Tau protection against experimental allergic encephalomyelitis. *J. Neuroimmunol.* 75: 35-42.
3. Mukai, H.Y., et al. 1997. Elevated serum levels of eosinophil major basic protein in patients with myeloproliferative disorders without eosinophilia. *Int. J. Hematol.* 66: 197-202.
4. Yamaguchi, Y., et al. 1999. C/EBP $\beta$  and GATA-1 synergistically regulate activity of the eosinophil granule major basic protein promoter: implication for C/EBP $\beta$  activity in eosinophil gene expression. *Blood* 94: 1429-1439.
5. Swaminathan, G.J., et al. 2001. Crystal structure of the eosinophil major basic protein at 1.8 Å. An atypical lectin with a paradigm shift in specificity. *J. Biol. Chem.* 276: 26197-26203.
6. Swaminathan, G.J., et al. 2005. Eosinophil-granule major basic protein, a c-type lectin, binds heparin. *Biochemistry* 44: 14152-14158.

## CHROMOSOMAL LOCATION

Genetic locus: PRG2 (human) mapping to 11q12; Prg2 (mouse) mapping to 2 D.

## SOURCE

EMBP (M-223) is a rabbit polyclonal antibody raised against amino acids 1-223 representing full length EMBP of mouse origin.

## PRODUCT

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

## STORAGE

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

## APPLICATIONS

EMBP (M-223) is recommended for detection of EMBP, and to a lesser extent, PRG3 of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1–2  $\mu$ g per 100–500  $\mu$ g 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).

Molecular Weight of EMBP precursor (proEMBP): 25 kDa.

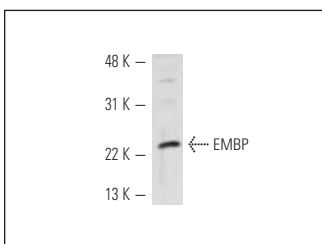
Molecular Weight of mature EMBP: 14 kDa.

Positive Controls: RAW 264.7 whole cell lysate: sc-2211 or mouse spleen extract: sc-2391.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



EMBP (M-223): sc-33557. Western blot analysis of EMBP expression in mouse spleen tissue extract.

## 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.