

# EMBP (BMK13): sc-59164

## 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 C3 $\delta$ . 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

- Oxvig, C., et al. 1993. Circulating human pregnancy-associated plasma protein-A is disulfide-bridged to the proform of eosinophil major basic protein. *J. Biol. Chem.* 268: 12243-12246.
- Li, M.S., et al. 1995. Human eosinophil major basic protein, a mediator of allergic inflammation, is expressed by alternative splicing from two promoters. *Biochem. J.* 305: 921-927.
- 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.
- Larson, K.A., et al. 1995. The identification and cloning of a murine major basic protein gene expressed in eosinophils. *J. Immunol.* 155: 3002-3012.
- 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.

## CHROMOSOMAL LOCATION

Genetic locus: PRG2 (human) mapping to 11q12.1.

## SOURCE

EMBP (BMK13) is a mouse monoclonal antibody raised against eosinophils of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

EMBP (BMK13) is available conjugated to agarose (sc-59164 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-59164 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-59164 PE), fluorescein (sc-59164 FITC), Alexa Fluor<sup>®</sup> 488 (sc-59164 AF488), Alexa Fluor<sup>®</sup> 546 (sc-59164 AF546), Alexa Fluor<sup>®</sup> 594 (sc-59164 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-59164 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-59164 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-59164 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## APPLICATIONS

EMBP (BMK13) is recommended for detection of EMBP irrespective of the stages of eosinophil activation 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500); also recommended for detection of the 23.8 kDa secreted pro-form of PRG2 also known as MBP (pregnancy associated MBP) and the 13.8 kDa mature form found in the matrix of the eosinophil large specific granule.

Suitable for use as control antibody for EMBP siRNA (h): sc-44577, EMBP shRNA Plasmid (h): sc-44577-SH and EMBP shRNA (h) Lentiviral Particles: sc-44577-V.

Molecular Weight of proEMBP precursor: 25 kDa.

Molecular Weight of mature EMBP: 14 kDa.

Positive Controls: MEG-01 whole cell lysate: sc-2283.

## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850. 3) Immunohistochemistry: use m-IgG $\kappa$  BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

## SELECT PRODUCT CITATIONS

- Gunin, A.G., et al. 2011. Age-related changes in proliferation, the numbers of mast cells, eosinophils, and cd45-positive cells in human dermis. *J. Gerontol. A Biol. Sci. Med. Sci.* 66: 385-392.
- Al-Salih, G., et al. 2012. Role of vegetation-associated protease activity in valve destruction in human infective endocarditis. *PLoS ONE* 7: e45695.

## 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) for detailed protocols and support products.