

# Ebi3 (G-4): sc-166158

## BACKGROUND

Epstein-Barr virus-induced gene 3 (Ebi3) is a widely expressed homolog to the interleukin IL-12 p40 subunit protein that forms a heterodimer with either IL-12 p35 or an IL-12 p35 homolog, p28, to create a new cytokine (IL-27). IL-27 is an early product of activated antigen-presenting cells and drives rapid clonal expansion of naive but not memory CD4<sup>+</sup> T cells. Interferon- $\beta$  differentially regulates expression of the IL-12 family members p35, p40, p19 and Ebi3 in activated human dendritic cells. Ebi3 may function to antagonize IL-12 and to inhibit the development of a Th1 immune response. Ebi3 is strongly expressed in Hodgkin and Reed-Sternberg cells, independently of the EBV status of the tumor cells. Research suggests that Ebi3 may be an additional component of the repertoire employed by Hodgkin and Reed-Sternberg cells to inhibit an effective anti-tumor or anti-viral immune response. The human Ebi3 gene maps to chromosome 19p13.3 and encodes a secreted glycoprotein that is expressed in spleen and tonsils, and at high levels in full-term placenta.

## CHROMOSOMAL LOCATION

Genetic locus: EBI3 (human) mapping to 19p13.3; Ebi3 (mouse) mapping to 17 D.

## SOURCE

Ebi3 (G-4) is a mouse monoclonal antibody raised against amino acids 154-228 mapping at the C-terminus of Ebi3 of mouse origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Ebi3 (G-4) is available conjugated to agarose (sc-166158 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166158 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166158 PE), fluorescein (sc-166158 FITC), Alexa Fluor<sup>®</sup> 488 (sc-166158 AF488), Alexa Fluor<sup>®</sup> 546 (sc-166158 AF546), Alexa Fluor<sup>®</sup> 594 (sc-166158 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-166158 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-166158 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-166158 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

## APPLICATIONS

Ebi3 (G-4) is recommended for detection of Ebi3 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

Suitable for use as control antibody for Ebi3 siRNA (h): sc-39410, Ebi3 siRNA (m): sc-39411, Ebi3 shRNA Plasmid (h): sc-39410-SH, Ebi3 shRNA Plasmid (m): sc-39411-SH, Ebi3 shRNA (h) Lentiviral Particles: sc-39410-V and Ebi3 shRNA (m) Lentiviral Particles: sc-39411-V.

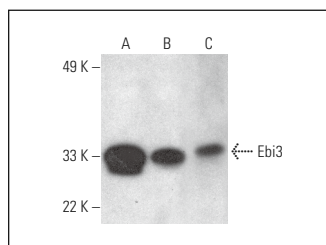
Molecular Weight of Ebi3: 34 kDa.

Positive Controls: RAW 264.7 whole cell lysate: sc-2211, Ebi3 (m): 293T Lysate: sc-119902 or I-11.15 whole cell lysate: sc-364370.

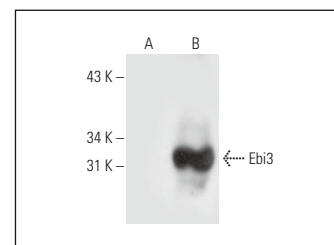
## RECOMMENDED SUPPORT REAGENTS

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

## DATA



Ebi3 (G-4) HRP: sc-166158 HRP. Direct western blot analysis of Ebi3 expression in I-11.15 (A) and RAW 264.7 (B) whole cell lysates and mouse placenta tissue extract (C).



Ebi3 (G-4): sc-166158. Western blot analysis of Ebi3 expression in non-transfected: sc-117752 (A) and mouse Ebi3 transfected: sc-119902 (B) 293T whole cell lysates.

## SELECT PRODUCT CITATIONS

- Hou, C., et al. 2016. Effects of an intravitreal injection of interleukin-35-expressing plasmid on pro-inflammatory and anti-inflammatory cytokines. *Int. J. Mol. Med.* 38: 713-720.
- Cho, K.A., et al. 2017. Mesenchymal stem cells ameliorate B-cell-mediated immune responses and increase IL-10-expressing regulatory B cells in an Ebi3-dependent manner. *Cell. Mol. Immunol.* 14: 895-908.
- Cassatella, M.A., et al. 2020. Human neutrophils activated by TLR8 agonists, with or without IFN $\gamma$ , synthesize and release Ebi3, but not IL-12, IL-27, IL-35, or IL-39. *J. Leukoc. Biol.* 108: 1515-1526.
- Wan, N., et al. 2021. Tregs-derived interleukin 35 attenuates endothelial proliferation through STAT1 in pulmonary hypertension. *Ann. Transl. Med.* 9: 926.
- Yu, C.R., et al. 2022. Photoreceptor cells constitutively express IL-35 and promote ocular immune privilege. *Int. J. Mol. Sci.* 23: 8156.

## 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.

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