



# Ebi3 (H-6): sc-365342

## BACKGROUND

Epstein-Barr virus-induced gene 3 (Ebi3) is a widely expressed homolog to the interleukin IL-12p40 subunit protein that forms a heterodimer with either IL-12p35 or an IL-12p35 homologue, 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 suggest 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 the spleen and tonsils, and at high levels in full-term placenta.

## REFERENCES

1. Devergne, O., et al. 2001. Expression of Epstein-Barr virus-induced gene 3, an interleukin-12 p40-related molecule, throughout human pregnancy: involvement of syncytiotrophoblasts and extravillous trophoblasts. *Am. J. Pathol.* 159: 1763-1776.
2. Omata, F., et al. 2001. The expression of IL-12p40 and its homologue, Epstein-Barr virus-induced gene 3, in inflammatory bowel disease. *Inflamm. Bowel Dis.* 7: 215-220.
3. Online Mendelian Inheritance in Man, OMIM<sup>TM</sup>. 2001. Johns Hopkins University, Baltimore, MD. MIM Number: 605816. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
4. Nieuwenhuis, E.E., et al. 2002. Disruption of T helper 2-immune responses in Epstein-Barr virus-induced gene 3-deficient mice. *Proc. Natl. Acad. Sci. USA* 99: 16951-16956.
5. Niedobitek, G., et al. 2002. Frequent expression of the Epstein-Barr virus (EBV)-induced gene, Ebi3, an IL-12 p40-related cytokine, in Hodgkin and Reed-Sternberg cells. *J. Pathol.* 198: 310-316.
6. Pflanz, S., et al. 2002. IL-27, a heterodimeric cytokine composed of Ebi3 and p28 protein, induces proliferation of naive CD4<sup>+</sup> T cells. *Immunity* 16: 779-790.

## CHROMOSOMAL LOCATION

Genetic locus: EBI3 (human) mapping to 19p13.3.

## SOURCE

Ebi3 (H-6) is a mouse monoclonal antibody raised against amino acids 21-130 mapping near the N-terminus of Ebi3 of human origin.

## PRODUCT

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

## APPLICATIONS

Ebi3 (H-6) is recommended for detection of Ebi3 of 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 shRNA Plasmid (h): sc-39410-SH and Ebi3 shRNA (h) Lentiviral Particles: sc-39410-V.

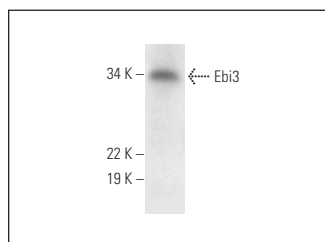
Molecular Weight of Ebi3: 34 kDa.

Positive Controls: human placenta extract: sc-363772.

## 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>TM</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 (H-6): sc-365342. Western blot analysis of Ebi3 expression in human placenta tissue extract.

## SELECT PRODUCT CITATIONS

1. Ma, Y., et al. 2016. Elevated level of interleukin-35 in colorectal cancer induces conversion of T cells into iT<sub>H</sub>35 by activating Stat1/Stat3. *Oncotarget* 7: 73003-73015.

## STORAGE

Store at 4 $^{\circ}$  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.