SANTA CRUZ BIOTECHNOLOGY, INC.

Ebi3 (F-7): sc-515323

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 $CD4^+$ T cells. Interferon-β 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.

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-12 p40 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™. 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.

CHROMOSOMAL LOCATION

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

SOURCE

Ebi3 (F-7) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 140-166 within an internal region of Ebi3 of human origin.

PRODUCT

Each vial contains 200 µg IgM kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-515323 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

Ebi3 (F-7) 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 µg per 100-500 µg 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.

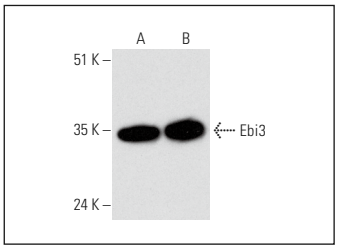
Molecular Weight of Ebi3: 34 kDa.

Positive Controls: I-11.15 whole cell lysate: sc-364370 or RAW 264.7 whole cell lysate: sc-2211.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein L-Agarose: sc-2336 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



Ebi3 (F-7): sc-515323. Western blot analysis of Ebi3 expression in RAW 264.7 (**A**) and I-11.15 (**B**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Kase, Y., et al. 2021. Engineered exosomes delivering specific tumor-suppressive RNAi attenuate oral cancer progression. Sci. Rep. 11: 5897.

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.