SANTA CRUZ BIOTECHNOLOGY, INC.

ECSIT (H-146) : sc-98508

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

ECSIT (Evolutionarily conserved signaling intermediate in Toll pathway) is a 431 amino acid ubiquitously expressed protein that plays an important role as an adaptor protein in the cytosolic signal transduction cascade events triggered by Toll receptor activation. Within the Toll pathway, ECSIT regulates MEKK1 processing for activation of NFκB, a major event leading to initiation of the innate immune response. In the mitochondria, ECSIT interacts with NDUFAF1 and assists in the formation of NADH:ubiquinone oxidoreductase (complex I), an extremely complicated multiprotein complex located in the inner mitochondrial membrane that functions in the transport of electrons from NADH to ubiquinone. Knockdown of ECSIT results in severely impaired complex I assembly and disturbed mitochondrial function. There are two isoforms of ECSIT that are produced as a result of alternative splicing events.

REFERENCES

1. Kopp, E., Medzhitov, R., Carothers, J., Xiao, C., Douglas, I., Janeway, C.A. and Ghosh, S. 1999. ECSIT is an evolutionarily conserved intermediate in the Toll/IL-1 signal transduction pathway. Genes Dev. 13: 2059-2071.
2. Moustakas, A. and Heldin, C.H. 2003. ECSIT-ement on the crossroads of Toll and BMP signal transduction. Genes Dev. 17: 2855-2859.
3. Xiao, C., Shim, J.H., Klüppel, M., Zhang, S.S., Dong, C., Flavell, R.A., Fu, X.Y., Wrana, J.L., Hogan, B.L. and Ghosh, S. 2003. ECSIT is required for Bmp signaling and mesoderm formation during mouse embryogenesis. Genes Dev. 17: 2933-2949.
4. Vogel, R.O., Janssen, R.J., van den Brand, M.A., Dieteren, C.E., Verkaart, S., Koopman, W.J., Willems, P.H., Pluk, W., van den Heuvel, L.P., Smeitink, J.A. and Nijtmans, L.G. 2007. Cytosolic signaling protein ECSIT also localizes to mitochondria where it interacts with chaperone NDUFAF1 and functions in complex I assembly. Genes Dev. 21: 615-624.
5. Milward, E., Johnstone, D., Trinder, D., Ramm, G. and Olynyk, J. 2007. The nexus of iron and inflammation in hepcidin regulation: SMADs, Stats, and ECSIT. Hepatology 45: 253-256.
6. Online Mendelian Inheritance in Man, OMIM™. 2007. Johns Hopkins University, Baltimore, MD. MIM Number: 608388. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

CHROMOSOMAL LOCATION

Genetic locus: ECSIT (human) mapping to 19p13.2; Ecsit (mouse) mapping to 9 A3.

SOURCE

ECSIT (H-146) is a rabbit polyclonal antibody raised against amino acids 101-246 mapping within an internal region of ECSIT of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

ECSIT (H-146) is recommended for detection of ECSIT of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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).

ECSIT (H-146) is also recommended for detection of ECSIT in additional species, including equine, bovine and porcine.

Suitable for use as control antibody for ECSIT siRNA (h): sc-77224, ECSIT siRNA (m): sc-77225, ECSIT shRNA Plasmid (h): sc-77224-SH, ECSIT shRNA Plasmid (m): sc-77225-SH, ECSIT shRNA (h) Lentiviral Particles: sc-77224-V and ECSIT shRNA (m) Lentiviral Particles: sc-77225-V.

Molecular Weight of ECSIT: 45/50 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210.

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.

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 or our catalog for detailed protocols and support products.