SANTA CRUZ BIOTECHNOLOGY, INC.

FMIP (E-3): sc-514192

BACKGROUND

Although the macrophage colony stimulating factor (M-CSF) and its receptor, c-Fms, are involved in the survival and proliferation of hematopoietic cells, little is known about the signalling events leading to differentiation into mature blood cells. An Fms-interacting protein, FMIP, transiently binds to M-CSF-activated Fms-molecules. This binding results in a rapid phosphorylation of FMIP within its Fms-binding domain, thereby dissociating Fms and FMIP. Endogenous levels of FMIP may form a threshold that decide whether bipotential progenitor cells differentiate into macrophages or granulocytes. Myeloid progenitor cells express low levels of endogenous FMIP and, upon M-CSF specific signalling, are differentiated into macrophages. Overexpression of FMIP may saturate Fms, which results in predominant cytoplasmic expression of FMIP and favors granulocyte differentiation.

REFERENCES

1. Ullrich, A. and Schlessinger, J. 1990. Signal transduction by receptors with tyrosine kinase activity. Cell 61: 203-212.
2. Gliniak, S.C. and Rohrschneider, R.L. 1990. Expression of the M-CSF receptor is controlled posttranscriptionally by the dominant actions of GM-CSF or multi-CSF. Cell 63: 1073-1083.
3. Ciba Foundation Symposium. 204. 1997. The Molecular Basis of Cellular Defence Mechanisms. New York: John Wiley & Sons, 3-16.
4. Broudy, V.C. 1997. Stem cell factor and hematopoiesis. Blood 90: 1345-1364.
5. Tamura, T., Mancini, A., Joos, H., Koch, A., Hakim, C., Dumanski, J., Weidner, K.M. and Neimann, H. 1999. FMIP, a novel Fms-interacting protein, affects granulocyte/macrophage differentiation. Oncogene 18: 6488-6495.

CHROMOSOMAL LOCATION

Genetic locus: THOC5 (human) mapping to 22q12.2; Thoc5 (mouse) mapping to 11 A1.

SOURCE

FMIP (E-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 36-57 near the N-terminus of FMIP of mouse 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-514192 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

APPLICATIONS

FMIP (E-3) is recommended for detection of FMIP 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 FMIP siRNA (h): sc-105364, FMIP siRNA (m): sc-145205, FMIP shRNA Plasmid (h): sc-105364-SH, FMIP shRNA Plasmid (m): sc-145205-SH, FMIP shRNA (h) Lentiviral Particles: sc-105364-V and FMIP shRNA (m) Lentiviral Particles: sc-145205-V.

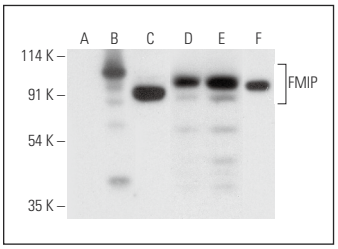
Molecular Weight of FMIP: 78 kDa.

Positive Controls: FMIP (h2): 293T Lysate: sc-128641, Jurkat whole cell lysate: sc-2204 or NIH/3T3 whole cell lysate: sc-2210.

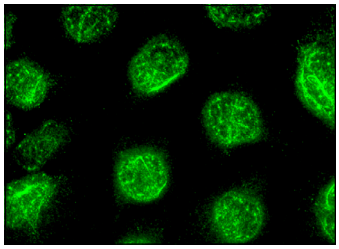
RECOMMENDED SUPPORT REAGENTS

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



FMIP (E-3): sc-514192. Western blot analysis of FMIP expression in non-transfected 293T: sc-117752 (**A**), human FMIP transfected 293T: sc-128641 (**B**), Jurkat (**C**), C2C12 (**D**) and NIH/3T3 (**E**) whole cell lysates and NIH/3T3 nuclear extract (**F**).



FMIP (E-3): sc-514192. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear speckle localization.

RESEARCH USE

For research use only, not for use in diagnostic procedures.