SANTA CRUZ BIOTECHNOLOGY, INC.

FMIP (H-8): sc-514146

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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. A 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.

CHROMOSOMAL LOCATION

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

SOURCE

FMIP (H-8) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 36-58 near the N-terminus of FMIP of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

FMIP (H-8) is available conjugated to agarose (sc-514146 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-514146 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514146 PE), fluorescein (sc-514146 FITC), Alexa Fluor® 488 (sc-514146 AF488), Alexa Fluor® 546 (sc-514146 AF546), Alexa Fluor® 594 (sc-514146 AF594) or Alexa Fluor® 647 (sc-514146 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-514146 AF680) or Alexa Fluor® 790 (sc-514146 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-514146 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

RESEARCH USE

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

APPLICATIONS

FMIP (H-8) 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.

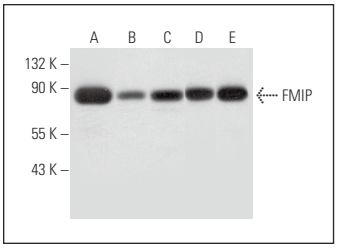
Molecular Weight of FMIP: 78 kDa.

Positive Controls: Sol8 cell lysate: sc-2249, NIH/3T3 nuclear extract: sc-2138 or Jurkat whole cell lysate: sc-2204.

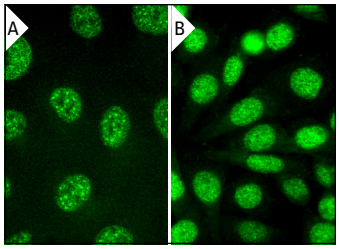
RECOMMENDED SUPPORT REAGENTS

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 A/G PLUS-Agarose: sc-2003 (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 (H-8): sc-514146. Western blot analysis of FMIP expression in Jurkat (**A**), C2C12 (**B**), NIH/3T3 (**C**) and Sol8 (**D**) whole cell lysates and NIH/3T3 nuclear extract (**E**).



FMIP (H-8): sc-514146. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear speckle localization (**A**). Immunofluorescence staining of formalin-fixed SW480 cells showing nuclear localization (**B**).

SELECT PRODUCT CITATIONS

1. Kliza, K.W., et al. 2021. Reading ADP-ribosylation signaling using chemical biology and interaction proteomics. Mol. Cell 81: 4552-4567.e8.
2. Mun, S.H., et al. 2022. THOC5 regulates human osteoclastogenesis. Eur. J. Cell Biol. 101: 151248.

STORAGE

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