

FAT10 (A-8): sc-393630

BACKGROUND

FAT10, also designated Ubiquitin D or Diubiquitin, is a 165 amino acid protein encoded in the major histocompatibility complex (MHC) that consists of two domains which share significant homology with ubiquitin. Each domain contains two cysteines, along with a free C-terminal diglycine motif required for FAT10 conjugate formation. FAT10 is inducible by interferon- γ and tumor necrosis factor α (TNF α). The FAT10 protein interacts with MAD2, a component of the spindle checkpoint, and plays a role in antigen presentation, cytokine response, apoptosis and mitosis. It may also regulate cell growth during dendritic cell or B cell activation and development. FAT10 mRNA is expressed mainly in some dendritic cells and lymphoblastoid lines and in other specific cells subsequent to interferon- γ induction. The human FAT10 gene, designated UBD, maps to chromosome 6p22.1 and is overexpressed in the tumors of various epithelial cancers.

REFERENCES

1. Fan, W., et al. 1996. Identification of seven new human MHC class I region genes around the HLA-F locus. *Immunogenetics* 44: 97-103.
2. Bates, E.E., et al. 1997. Identification and analysis of a novel member of the ubiquitin family in dendritic cells and mature B cells. *Eur. J. Immunol.* 27: 2471-2477.
3. Liu, Y.C., et al. 1999. A MHC-encoded ubiquitin-like protein (FAT10) binds noncovalently to the spindle assembly checkpoint protein MAD2. *Proc. Natl. Acad. Sci. USA* 96: 4313-4318.

CHROMOSOMAL LOCATION

Genetic locus: UBD (human) mapping to 6p22.1.

SOURCE

FAT10 (A-8) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 118-133 within an internal region of FAT10 of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

FAT10 (A-8) is available conjugated to agarose (sc-393630 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-393630 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393630 PE), fluorescein (sc-393630 FITC), Alexa Fluor[®] 488 (sc-393630 AF488), Alexa Fluor[®] 546 (sc-393630 AF546), Alexa Fluor[®] 594 (sc-393630 AF594) or Alexa Fluor[®] 647 (sc-393630 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-393630 AF680) or Alexa Fluor[®] 790 (sc-393630 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-393630 P, (100 μ g 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

FAT10 (A-8) is recommended for detection of FAT10 of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ 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 FAT10 siRNA (h): sc-60627, FAT10 shRNA Plasmid (h): sc-60627-SH and FAT10 shRNA (h) Lentiviral Particles: sc-60627-V.

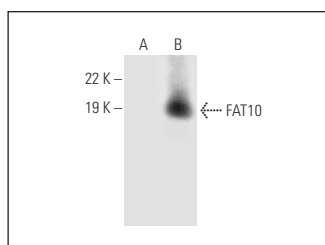
Molecular Weight of FAT10: 18 kDa.

Positive Controls: FAT10 (h): 293T Lysate: sc-113806 or Hep G2 cell lysate: sc-2227.

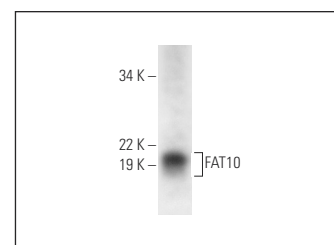
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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



FAT10 (A-8): sc-393630. Western blot analysis of FAT10 expression in non-transfected: sc-117752 (A) and human FAT10 transfected: sc-113806 (B) 293T whole cell lysates.



FAT10 (A-8): sc-393630. Western blot analysis of FAT10 expression in Hep G2 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Shao, Y., et al. 2022. Ubiquitin-like protein FAT10 promotes renal fibrosis by stabilizing USP7 to prolong CHK1-mediated G₂/M arrest in renal tubular epithelial cells. *Aging* 14: 7527-7546.

STORAGE

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

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