

# FAT10 (I-16): sc-51082

## BACKGROUND

FAT10, also designated Ubiquitin D or Diubiquitin, is a 165 amino acid protein encoded in the major histocompatibility complex (MHC) that consists of 2 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- $\gamma$  and tumor necrosis factor  $\alpha$  (TNF $\alpha$ ). 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- $\gamma$  induction. The human FAT10 gene, designated UBD, maps to chromosome 6p21.3 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.
4. Online Mendelian Inheritance in Man, OMIM. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 606050. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
5. Hipp, M.S., et al. 2005. FAT10, a ubiquitin-independent signal for proteasomal degradation. *Mol. Cell. Biol.* 25: 3483-3491.
6. Zhang, D.W., et al. 2006. p53 negatively regulates the expression of FAT10, a gene upregulated in various cancers. *Oncogene* 25: 2318-2327.

## CHROMOSOMAL LOCATION

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

## SOURCE

FAT10 (I-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of FAT10 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-51082 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

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

## APPLICATIONS

FAT10 (I-16) is recommended for detection of FAT10 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ 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).

FAT10 (I-16) is also recommended for detection of FAT10 in additional species, including equine.

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.

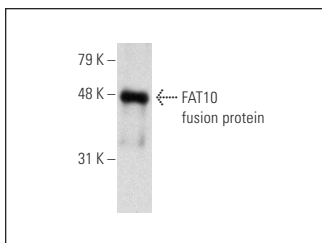
Molecular Weight of FAT10: 18 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



FAT10 (I-16): sc-51082. Western blot analysis of human recombinant FAT10 fusion protein.

## RESEARCH USE

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

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Try **FAT10 (A-8): sc-393630** or **FAT10 (G-5): sc-133199**, our highly recommended monoclonal alternatives to FAT10 (I-16).