

FAT10 (R-161): sc-67202

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 6p21.3 and is overexpressed in the tumors of various epithelial cancers.

REFERENCES

1. Fan, W., Cai, W., Parimoo, S., Schwarz, D.C., Lennon, G.G. and Weissman, S.M. 1996. Identification of seven new human MHC class I region genes around the HLA-F locus. *Immunogenetics* 44: 97-103.
2. Bates, E.E., Ravel, O., Dieu, M.C., Ho, S., Guret, C., Bridon, J.M., Ait-Yahia, S., Brière, F., Caux, C., Banchereau, J. and Lebecque, S. 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., Pan, J., Zhang, C., Fan, W., Collinge, M., Bender, J.R. and Weissman, S.M. 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., Kalveram, B., Raasi, S., Groettrup, M. and Schmidtke, G. 2005. FAT10, a Ubiquitin-independent signal for proteasomal degradation. *Mol. Cell. Biol.* 25: 3483-3491.
6. Lim, C.B., Zhang, D. and Lee, C.G. 2006. FAT10, a gene upregulated in various cancers, is cell-cycle regulated. *Cell Div.* 1: 20.
7. Ross, M.J., Wosnitzer, M.S., Ross, M.D., Granelli, B., Gusella, G.L., Husain, M., Kaufman, L., Vasievich, M., D'Agati, V.D., Wilson, P.D., Klotman, M.E. and Klotman, P.E. 2006. Role of Ubiquitin-like protein FAT10 in epithelial apoptosis in renal disease. *J. Am. Soc. Nephrol.* 17: 996-1004.
8. Zhang, D.W., Jeang, K.T. and Lee, C.G. 2006. p53 negatively regulates the expression of FAT10, a gene upregulated in various cancers. *Oncogene* 25: 2318-2327.
9. Ren, J., Kan, A., Leong, S.H., Ooi, L.L., Jeang, K.T., Chong, S.S., Kon, O.L. and Lee, C.G. 2006. FAT10 plays a role in the regulation of chromosomal stability. *J. Biol. Chem.* 281: 11413-11421.

CHROMOSOMAL LOCATION

Genetic locus: UBD (human) mapping to 6p21.3; Ubd (mouse) mapping to 17 B3.

SOURCE

FAT10 (R-161) is a rabbit polyclonal antibody raised against amino acids 1-161 representing full length FAT10 of rat origin.

PRODUCT

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

APPLICATIONS

FAT10 (R-161) is recommended for detection of FAT10 of mouse, rat and, to a lesser extent, human origin by Western Blotting (starting dilution 1:200, 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 siRNA (m): sc-60628, FAT10 shRNA Plasmid (h): sc-60627-SH, FAT10 shRNA Plasmid (m): sc-60628-SH, FAT10 shRNA (h) Lentiviral Particles: sc-60627-V and FAT10 shRNA (m) Lentiviral Particles: sc-60628-V.

Molecular Weight of FAT10: 18 kDa.

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.


 MONOS
Satisfation
Guaranteed

Try **FAT10 (A-8): sc-393630** or **FAT10 (G-5): sc-133199**, our highly recommended monoclonal alternatives to FAT10 (R-161).