

Store at
-20°C

FTO (D2V1I) Rabbit mAb



#45980

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orders@cellsignal.comEntrez-Gene ID #79068
UniProt ID #Q9C0B1

New 05/18

For Research Use Only. Not For Use In Diagnostic Procedures.

Applications W Endogenous	Species Cross-Reactivity* H, M, R	Molecular Wt. 60 kDa	Isotype Rabbit IgG**
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Background: FTO (fat mass and obesity-associated protein) is the first obesity gene product identified by genome-wide association studies and it is associated with the largest effect size for this class of proteins (1-4). Multiple single-nucleotide polymorphisms (SNPs) in the first intron of the *FTO* gene have been associated with increased body weight and obesity. Further studies reported that *FTO* risk alleles were associated with an increase in energy intake, a reduction of activity, and possibly an increased daily fat intake (4).

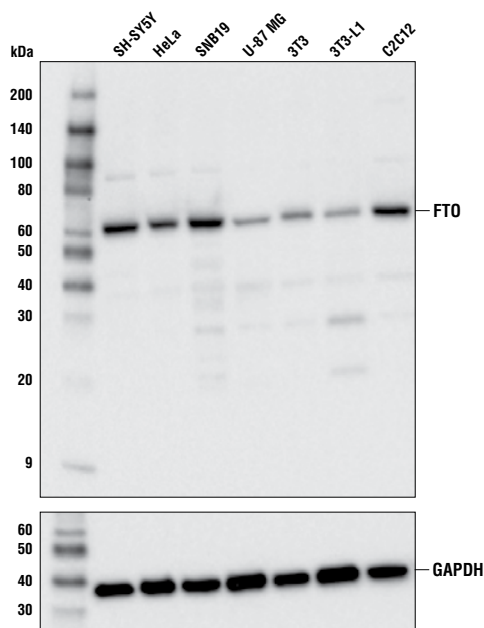
FTO is a DNA and RNA demethylase that catalyzes the oxidative demethylation of thymidine and uracil. Among its targets is an mRNA subset involved in regulation of learning, reward behavior, motor functions, and feeding (5). Loss of the *FTO* gene in mice leads to postnatal growth retardation and a significant reduction in adipose tissue. Mice deficient in the *FTO* gene have lean body mass due to increased energy expenditure and systemic activation of sympathetic neurons, while overexpression of *FTO* in mice leads to increased food intake and results in obesity. These results demonstrate that FTO is functionally involved in energy homeostasis (6-8).

Background References:

- (1) Frayling, T.M. et al. (2007) *Science* 316, 889-94.
- (2) Scuteri, A. et al. (2007) *PLoS Genet* 3, e115.
- (3) Dina, C. et al. (2007) *Nat Genet* 39, 724-6.
- (4) Gulati, P. and Yeo, G.S. (2013) *Diabetologia* 56, 2113-21.
- (5) Hess, M.E. et al. (2013) *Nat Neurosci* 16, 1042-8.
- (6) Fischer, J. et al. (2009) *Nature* 458, 894-8.
- (7) Tews, D. et al. (2013) *Endocrinology* 154, 3141-51.
- (8) Church, C. et al. (2010) *Nat Genet* 42, 1086-92.

Specificity/Sensitivity: FTO (D2V1I) Rabbit mAb recognizes endogenous levels of total FTO protein.

Source/Purification: Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Gly87 of human FTO protein.



Western blot analysis of extracts from various cell lines using FTO (D2V1I) Rabbit mAb (upper) or GAPDH (D16H11) XP[®] Rabbit mAb #5174 (lower).

Storage: Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

***Species cross-reactivity is determined by western blot.**
****Anti-rabbit secondary antibodies must be used to detect this antibody.**

Recommended Antibody Dilutions:

Western blotting 1:1000

For product specific protocols and a complete listing of recommended companion products please see the product web page at www.cellsignal.com.

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Applications: W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide Species Cross-Reactivity: H—human M—mouse R—rat Hm—hamster Mk—monkey Mi—mink C—chicken Dm—D. melanogaster X—Xenopus Z—zebrafish B—bovine Dg—dog Pg—pig Sc—S. cerevisiae Ce—C. elegans Hr—Horse All—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.