Revision 3

Store at -20C

#6917

GFAT2 (D40C7) Rabbit mAb

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W	H	Endogenous	78	Rabbit IgG	#O94808	9945

Product Usage Information

Application	Dilution
Western Blotting	1:1000

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.

Specificity/Sensitivity

GFAT2 (D40C7) Rabbit mAb recognizes endogenous levels of total GFAT2 protein. This antibody also cross-reacts with GFAT1 protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Leu205 of human GFAT2 protein.

Background

GFAT1, glutamine:fructose-6-phosphate aminotransferase 1, is the rate-limiting enzyme of the hexosamine biosynthesis pathway (1). This enzyme catalyzes the conversion of fructose-6-phosphate and glutamine to glucosamine-6-phosphate and glutamate (2). The hexosamine biosynthesis pathway generates the building blocks for protein and lipid glycosylation (2). Furthermore, studies suggest that increased activity of this pathway is a contributing factor to hyperglycemia-induced insulin resistance (1,2). GFAT1 is more active in non-insulin-dependent diabetes mellitus (NIDDM) patients (3). Transgenic mice overexpressing this enzyme in skeletal muscle and adipose tissue show an insulin resistance phenotype (4,5). GFAT2, an isoenzyme of GFAT1, was later identified (6,7). Studies show that the regulation of GFAT2 is different from that of GFAT1, suggesting differential regulation of the hexosamine pathway in different tissues (7).

Background References

1. Niimi, M. et al. (2001) *J Hum Genet* 46, 566-71.
2. DeHaven, J.E. et al. (2001) *Diabetes* 50, 2419-24.
3. Yki-Järvinen, H. et al. (1999) *Life Sci* 65, 215-23.
4. Cooksey, R.C. et al. (1999) *Endocrinology* 140, 1151-7.
5. Hebert, L.F. et al. (1996) *J Clin Invest* 98, 930-6.
6. Oki, T. et al. (1999) *Genomics* 57, 227-34.
7. Hu, Y. et al. (2004) *J Biol Chem* 279, 29988-93.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting

Cross-Reactivity Key

H: Human

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