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Store at -20C
#5322

GFAT1 (D12F4) Rabbit mAb

For Research Use Only. Not for Use in Diagnostic Procedures.

Applications: W, IP, eCLIP	Reactivity: H R	Sensitivity: Endogenous	MW (kDa): 80	Source/Isotype: Rabbit IgG	UniProt ID: #Q06210	Entrez-Gene Id: 2673
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Product Usage Information

Application

Western Blotting
Immunoprecipitation
eCLIP

Dilution

1:1000
1:50
1:200

For more information about the RBP-eCLIP service please visit Eclipsebio.

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

GFAT1 (D12F4) Rabbit mAb detects endogenous levels of total GFAT1 protein. This antibody also cross-reacts with GFAT2 protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to the sequence around Gly100 of human GFAT1.

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

- Niimi, M. et al. (2001) *J Hum Genet* 46, 566-71.
- DeHaven, J.E. et al. (2001) *Diabetes* 50, 2419-24.
- Yki-Järvinen, H. et al. (1999) *Life Sci* 65, 215-23.
- Cooksey, R.C. et al. (1999) *Endocrinology* 140, 1151-7.
- Hebert, L.F. et al. (1996) *J Clin Invest* 98, 930-6.
- Oki, T. et al. (1999) *Genomics* 57, 227-34.
- 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 **IP:** Immunoprecipitation **eCLIP:** eCLIP

Cross-Reactivity Key

H: Human **R:** Rat

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