

TBC1D7 (D8K1Y) Rabbit mAb

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Applications: W, IP	Reactivity: H M R	Sensitivity: Endogenous	MW (kDa): 30	Source/Isotype: Rabbit IgG	UniProt ID: #Q9PON9	Entrez-Gene Id: 51256
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Product Usage Information**Application**

Western Blotting
Immunoprecipitation

Dilution

1:1000
1:50

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

TBC1D7 (D8K1Y) Rabbit mAb recognizes endogenous levels of total TBC1D7 protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues near the amino terminus of human TBC1D7 protein.

Background

TBC1 domain family member 7 (TBC1D7, TBC7) belongs to a family of TBC (Tre-2/Bub2/Cdc16) containing proteins that function as GTPase-activating proteins (GAPs) (1,2). TBC1D7 was initially identified as a novel binding protein within the TSC1-TSC2 complex, where it was thought to associate with TSC1 (3,4). Additional research indicates that TBC1D7 is a third subunit of the TSC1-TSC2 complex that possesses Rheb-GAP activity and signals upstream of mTORC1 (5). Knockdown of TBC1D7 limits the association between TSC1 and TSC2, resulting in reduced Rheb-GAP activity and increased mTORC1 signaling (5). Mutations in the corresponding *TBC1D7* gene result in increased mTORC1 signaling, delayed autophagy, and are associated with intellectual disability (ID) and macrocrania (6,7).

Background References

1. Pan, X. et al. (2006) *Nature* 442, 303-6.
2. Fukuda, M. (2011) *Biosci Rep* 31, 159-68.
3. Nakashima, A. et al. (2007) *Biochem Biophys Res Commun* 361, 218-23.
4. Sato, N. et al. (2010) *Genes Chromosomes Cancer* 49, 353-67.
5. Dibble, C.C. et al. (2012) *Mol Cell* 47, 535-46.
6. Capo-Chichi, J.M. et al. (2013) *J Med Genet* 50, 740-4.
7. Alfaiz, A.A. et al. (2014) *Hum Mutat* 35, 447-51.

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

Cross-Reactivity Key

H: Human **M:** Mouse **R:** Rat

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