

#14949 Store at -20°C

**TBC1D7 (D8K1Y) Rabbit mAb****Cell Signaling**  
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**For Research Use Only. Not for Use in Diagnostic Procedures.**

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
WB, IP	H M R	Endogenous	30	Rabbit IgG	#Q9P0N9	51256

**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****WB:** Western Blotting **IP:** Immunoprecipitation**Cross-Reactivity Key**

**H:** human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **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  
**GP:** Guinea Pig **Rab:** rabbit **All:** all species expected

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