

#48633 Store at -20C

**KLC1 (D2T2R) 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           | Endogenous   | 65, 75    | Rabbit IgG      | #Q07866     | 3831            |

**Product Usage Information****Application**Western Blotting  
Immunoprecipitation**Dilution**1:1000  
1:200**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**

KLC1 (D2T2R) Rabbit mAb recognizes endogenous levels of total KLC1 protein. This antibody also cross-reacts with an unidentified protein of 25 kDa.

**Source / Purification**

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Gly443 of human KLC1 protein.

**Background**

Kinesins are heterotetrameric motor proteins that transport cargo along microtubule tracks toward their plus ends (anterograde direction) in an ATP-dependent manner. Two heavy chains contain the motor activity, while two kinesin light chains act as adaptor proteins that may be required for binding of specific cargo and/or regulation of heavy chain catalytic activity. The amino terminus of kinesin light chain 1 (KLC1) binds to kinesin heavy chains while the KLC1 carboxy-terminal tetratricopeptide repeat (TPR) domain binds cargo (1-3). Phosphorylation of KLC1 at Ser521 by AMPK may regulate insulin granule dynamics (4,5). Research studies identify a KLC1-ALK fusion protein in human lung adenocarcinoma, and this finding may provide insight for future therapeutics (6).

**Background References**

1. Verhey, K.J. and Hammond, J.W. (2009) *Nat Rev Mol Cell Biol* 10, 765-77.
2. Hirokawa, N. et al. (2009) *Nat Rev Mol Cell Biol* 10, 682-96.
3. Kawano, T. et al. (2012) *Traffic* 13, 834-48.
4. McDonald, A. et al. (2010) *Biochem Soc Trans* 38, 205-8.
5. McDonald, A. et al. (2009) *Islets* 1, 198-209.
6. Togashi, Y. et al. (2012) *PLoS One* 7, e31323.

**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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