

VPS35 (E6S4I) Rabbit mAb

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Applications: W, IP	Reactivity: H M R Mk	Sensitivity: Endogenous	MW (kDa): 81	Source/Isotype: Rabbit IgG	UniProt ID: #Q96QK1	Entrez-Gene Id: 55737
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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 Source / Purification

VPS35 (E6S4I) Rabbit mAb recognizes endogenous levels of total VPS35 protein.

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Glu775 of human VPS35 protein.

Background

Retromer is a hetero-pentameric protein complex that mediates retrograde transport of transmembrane proteins from endosomes to the trans-Golgi network (TGN). The retromer complex consists of two protein compounds, a sorting nexin dimer and a trimeric cargo-selective complex (CSC) composed of vacuolar protein sorting-associated protein 35 (VPS35), VPS26, and VPS29 (1-3). VPS35 is the largest of the three CSC proteins, and interacts with VPS26 through its amino terminus and with VPS29 through its carboxy terminus (1).

VPS35 and the retromer are involved in trafficking of specific cargo along the dendritic processes of neurons, including appropriate NMDA and AMPA receptor expression at synapses, and β2-adrenergic receptors (β2AR) outside of synapses and throughout the dendrite (4). It has been shown that VPS35 expression is required for survival of dopaminergic neurons through its role in mitochondrial fusion and function (5). Mutations in the *VPS35* gene have been shown to cause late-onset, autosomal dominant familial Parkinson's disease (6). VPS35 has also been implicated in Alzheimer's disease by playing a role in regulation of Aβ peptide levels, with reduced protein levels of VPS35 seen in patient tissues (7).

Background References

1. Seaman, M.N. (2005) *Trends Cell Biol* 15, 68-75.
2. Burd, C. and Cullen, P.J. (2014) *Cold Spring Harb Perspect Biol* 6, pii: a016774. doi: 10.1101/cshperspect.a016774.
3. Bonifacino, J.S. and Hurley, J.H. (2008) *Curr Opin Cell Biol* 20, 427-36.
4. Choy, R.W. et al. (2014) *Neuron* 82, 55-62.
5. Tang, F.L. et al. (2015) *Cell Rep* 12, 1631-43.
6. Williams, E.T. et al. (2017) *J Parkinsons Dis* 7, 219-33.
7. Small, S.A. et al. (2005) *Ann Neurol* 58, 909-19.

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 **Mk:** Monkey

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