

Eps15 (D3K8R) Rabbit mAb

Orders: 877-616-CELL (2355)
orders@cellsignal.com

Support: 877-678-TECH (8324)

Web: info@cellsignal.com
cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

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

Applications: W, IP, IF-IC	Reactivity: H M R Mk	Sensitivity: Endogenous	MW (kDa): 138	Source/Isotype: Rabbit IgG	UniProt ID: #P42566	Entrez-Gene Id: 2060
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Product Usage Information**Application**

Western Blotting
Immunoprecipitation
Immunofluorescence (Immunocytochemistry)

Dilution

1:1000
1:100
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

Eps15 (D3K8R) Rabbit mAb recognizes endogenous levels of total Eps15 protein. Based upon sequence alignment, this antibody is predicted to react with both Eps15a and Eps15b. This antibody does not cross-react with Eps15R.

Species predicted to react based on 100% sequence homology

Chicken, Xenopus, Dog, Horse

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Pro630 of human Eps15 protein.

Background

Eps15 (EGFR pathway substrate 15) was originally discovered as a substrate for the kinase activity of EGFR (1). Eps15 has a tripartite structure comprising an amino terminal portion, which contains three evolutionarily conserved EH protein-protein interaction domains, a central putative coiled-coil region required for constitutive oligmerization, and a carboxy terminal domain containing multiple copies of the amino acid triplet Asp-Pro-Phe that constitute the AP2 binding domain. The carboxy terminal domain also contains two ubiquitin interaction motifs (UIMs), the last of which is indispensable for Eps15 binding to ubiquitin (1). Several lines of evidence support a role for Eps15 in clathrin-mediated endocytosis, including the endocytosis of synaptic vesicles. Eps15 binds to AP2 as well as other proteins involved in endocytosis and/or synaptic vesicle recycling, such as synaptojanin1 and epsin. Furthermore, Eps15 colocalizes with markers of the plasma membrane clathrin-coated pits and vesicles (2). Eps15 regulates the endosomal trafficking of c-Met (3) and EGFR (4), possibly by recruiting the ubiquitinated receptors to the rims of clathrin-coated pits through interaction between the ubiquitin tag and its UIMs.

The *EPS15* gene yields two isoforms that are believed to reside in distinct subcellular locations and are thus implicated in different facets of endosomal trafficking (5). Human *EPS15* has been mapped to chromosome 1p31-p32, a region displaying several nonrandom chromosomal abnormalities, including deletions in neuroblastoma and translocations in acute lymphoblastic and myeloid leukemias. Research has shown two translocations t(1;11)(p32;q11) are found in rare cases of myeloid leukemia where the Eps15 gene was fused to the HRX gene, resulting in two reciprocal fusion genes (6).

Background References

1. Fazioli, F. et al. (1993) *Mol Cell Biol* 13, 5814-28.
2. Tebar, F. et al. (1996) *J Biol Chem* 271, 28727-30.
3. Parachoniak, C.A. and Park, M. (2009) *J Biol Chem* 284, 8382-94.
4. Torrisi, M.R. et al. (1999) *Mol Biol Cell* 10, 417-34.
5. Roxrud, I. et al. (2008) *J Cell Biol* 180, 1205-18.
6. Bernard, O.A. et al. (1994) *Oncogene* 9, 1039-45.

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 nonfat dry milk, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting **IP:** Immunoprecipitation **IF-IC:** Immunofluorescence (Immunocytochemistry)

Cross-Reactivity Key**H:** Human **M:** Mouse **R:** Rat **Mk:** Monkey**Trademarks and Patents**

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