Revision 1

Store at -20C

#6921

Mena (D33C1) Rabbit mAb

Cell Signaling TECHNOLOGY®

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

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IP	H M R	Endogenous	80, 88, 140	Rabbit IgG	#Q8N8S7	55740

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	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

Mena (D33C1) Rabbit mAb recognizes endogenous levels of total Mena protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Gly547 of human Mena protein.

Background

Mena, EVL, and VASP are all members of the Ena/VASP family, which is involved in controlling cell shape and movement by shielding actin filaments from capping proteins (1). Ena/VASP proteins have three distinct domains: an amino-terminal EVH1 domain controlling protein localization, a central proline-rich domain mediating interactions with SH3 and WW domain-containing proteins, including profilin, and a carboxy-terminal domain that promotes tetramerization and actin-binding (2). Mena (also known as ENAH or Protein enabled homolog) interacts with actin filaments at the growing ends and is thus localized to lamellipodia and the tips of neuronal growth cone filopodia. Axons projecting from interhemispheric cortico-cortical neurons were shown to be misrouted in newborn, homozygous Mena knockout mice (3). Mena may be phosphorylated at Ser236 by PKA, a post-translational modification (PTM) that is reported to promote filopodial formation and elongation of the growth cone (4). Three forms of the Mena protein, with apparent molecular weights of 80, 88, and 140 kDa, have been described. The 80 kDa isoform is broadly expressed, whereas the 140 kDa isoform is reportedly enriched in neural cell types; these isoforms are generated by alternative splicing. The 88 kDa isoform is expressed primarily in embryonic cells and is likely the result of PTM of the 80 kDa isoform. Expression of all three forms is completely eliminated after homozygous deletion of *ENAH*, the gene encoding the Mena protein (1,3).

Background References

1. Gertler, F.B. et al. (1996) *Cell* 87, 227-39.
2. Small, J.V. (2008) *Nat Cell Biol* 10, 118-20.
3. Lanier, L.M. et al. (1999) *Neuron* 22, 313-25.
4. Lebrand, C. et al. (2004) *Neuron* 42, 37-49.

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

Cross-Reactivity Key

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

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Limited Uses

force or effect.

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