Revision 1

#13868 Store at -20C

LARS Antibody

Cell Signaling
T E C H N O L O G Y®

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

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source:	UniProt ID:	Entrez-Gene Id:
WB	H M R Mk	Endogenous	134	Rabbit	#Q9P2J5	51520

Product Usage Information

Application	Dilution
Western Blotting	1:1000

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at –20°C. *Do not aliquot the antibody.*

Specificity / Sensitivity

LARS Antibody recognizes endogenous levels of total LARS protein.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues near the amino terminus of human LARS protein. Antibodies are purified by protein A and peptide affinity chromatography.

Background

Leucyl-tRNA Synthetase (LARS) is a leucine sensor critical for the activation of mTORC1 (1). mTORC1 kinase complex is an important component in the regulation of cell growth (2,3). Its activity is modulated by energy levels, growth factors, and amino acids (4,5). The four related GTPases, RagA, RagB, RagC, and RagD, have been shown to interact with raptor in mTORC1 (2,3). These interactions are both necessary and sufficient for mTORC1 activation in response to amino acid signals (2,3). LARS functions as a GTPase-activating protein (GAP) and interacts directly with RagD GTPase (1). The role of LARS in leucine sensing is not related to its tRNA charging activity (1).

Background References

1. Han, J.M. et al. (2012) *Cell* 149, 410-24.
2. Sancak, Y. et al. (2008) *Science* 320, 1496-501.
3. Kim, E. et al. (2008) *Nat Cell Biol* 10, 935-45.
4. Hay, N. and Sonenberg, N. (2004) *Genes Dev* 18, 1926-45.
5. Wullschleger, S. et al. (2006) *Cell* 124, 471-84.

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

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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