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C11orf59 Antibody (N-term) Blocking peptide
Synthetic peptide
Catalog # BP13455a

Specification

C11orf59 Antibody (N-term) Blocking peptide - Product Information

Primary Accession Q6IAA8

C11orf59 Antibody (N-term) Blocking peptide - Additional Information

Gene ID 55004

Other Names
Ragulator complex protein LAMTOR1, Late endosomal/lysosomal adaptor and MAPK and MTOR activator 1, Lipid raft adaptor protein p18, Protein associated with DRMs and endosomes, p27Kip1-releasing factor from RhoA, p27RF-Rho, LAMTOR1, C11orf59, PDRO

Target/Specificity
The synthetic peptide sequence used to generate the antibody AP13455a was selected from the N-term region of C11orf59. A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

C11orf59 Antibody (N-term) Blocking peptide - Protein Information

Name LAMTOR1 {ECO:0000303|PubMed:31001086, ECO:0000312|HGNC:HGNC:26068}

Function
Key component of the Ragulator complex, a multiprotein complex involved in amino acid sensing and activation of mTORC1, a signaling complex promoting cell growth in response to growth factors, energy levels, and amino acids (PubMed:20381137, PubMed:22980980, PubMed:29158492). Activated by amino acids through a mechanism involving the lysosomal V-ATPase, the Ragulator plays a dual role for the small GTPases Rag (RagA/RRAGA, RagB/RRAGB, RagC/RRAGC and/or RagD/RRAGD): it (1) acts as a guanine nucleotide exchange factor (GEF), activating the small GTPases Rag and (2) mediates recruitment of Rag GTPases to the lysosome membrane (PubMed:22980980, PubMed:<a

href="http://www.uniprot.org/citations/30181260" target="_blank">30181260, PubMed:31001086, PubMed:32686708, PubMed:36476874, PubMed:29158492, PubMed:28935770). Activated Ragulator and Rag GTPases function as a scaffold recruiting mTORC1 to lysosomes where it is in turn activated (PubMed:20381137, PubMed:22980980, PubMed:29158492). LAMTOR1 is directly responsible for anchoring the Ragulator complex to the lysosomal membrane (PubMed:31001086, PubMed:32686708). LAMTOR1 wraps around the other subunits of the Ragulator complex to hold them in place and interacts with the Rag GTPases, thereby playing a key role in the recruitment of the mTORC1 complex to lysosomes (PubMed:29285400, PubMed:29107538, PubMed:29123114, PubMed:28935770). Also involved in the control of embryonic stem cells differentiation via non-canonical RagC/RRAGC and RagD/RRAGD activation: together with FLCN, it is necessary to recruit and activate RagC/RRAGC and RagD/RRAGD at the lysosomes, and to induce exit of embryonic stem cells from pluripotency via non-canonical, mTOR-independent TFE3 inactivation (By similarity). Also required for late endosomes/lysosomes biogenesis it may regulate both the recycling of receptors through endosomes and the MAPK signaling pathway through recruitment of some of its components to late endosomes (PubMed:20381137, PubMed:22980980). May be involved in cholesterol homeostasis regulating LDL uptake and cholesterol release from late endosomes/lysosomes (PubMed:20544018). May also play a role in RHOA activation (PubMed:19654316).

Cellular Location
Lysosome membrane; Lipid-anchor; Cytoplasmic side. Late endosome membrane; Lipid-anchor; Cytoplasmic side. Note=Recruited to lysosome and endosome membranes through N-terminal myristoylation and palmitoylation

C11orf59 Antibody (N-term) Blocking peptide - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Blocking Peptides

C11orf59 Antibody (N-term) Blocking peptide - Images

C11orf59 Antibody (N-term) Blocking peptide - Background

C11orf59 activates RHOA. Binds to CDKN1B and prevents interaction of CDKN1B and RHOA. This leaves RHOA in a form accessible to ARHGEF2, thereby promoting ARHGEF2-mediated exchange of GDP for GTP.

C11orf59 Antibody (N-term) Blocking peptide - References

Sancak, Y., et al. Cell 141(2):290-303(2010)Guillaumot, P., et al. PLoS ONE 5 (6), E10977 (2010)

:Hoshino, D., et al. J. Biol. Chem. 284(40):27315-27326(2009)Nada, S., et al. EMBO J. 28(5):477-489(2009)Rush, J., et al. Nat. Biotechnol. 23(1):94-101(2005)