

MLST8 / GBL Antibody (C-Terminus)
Rabbit Polyclonal Antibody
Catalog # ALS11459**Specification****MLST8 / GBL Antibody (C-Terminus) - Product Information**

Application	IF, WB, IHC
Primary Accession	Q9BVC4
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Calculated MW	36kDa KDa

MLST8 / GBL Antibody (C-Terminus) - Additional Information**Gene ID** 64223**Other Names**

Target of rapamycin complex subunit LST8, TORC subunit LST8, G protein beta subunit-like, Gable, Protein GbetaL, Mammalian lethal with SEC13 protein 8, mLST8, MLST8, GBL, LST8

Target/Specificity

14 amino acid peptide from near the carboxy-terminus of human GbL

Reconstitution & Storage

Short term 4°C, long term aliquot and store at -20°C, avoid freeze thaw cycles. Store undiluted.

Precautions

MLST8 / GBL Antibody (C-Terminus) is for research use only and not for use in diagnostic or therapeutic procedures.

MLST8 / GBL Antibody (C-Terminus) - Protein Information**Name** MLST8 {ECO:0000303|PubMed:34741373, ECO:0000312|HGNC:HGNC:24825}**Function**

Subunit of both mTORC1 and mTORC2, which regulates cell growth and survival in response to nutrient and hormonal signals (PubMed: [12718876](http://www.uniprot.org/citations/12718876), PubMed: [15268862](http://www.uniprot.org/citations/15268862), PubMed: [15467718](http://www.uniprot.org/citations/15467718), PubMed: [24403073](http://www.uniprot.org/citations/24403073)). mTORC1 is activated in response to growth factors or amino acids (PubMed: [12718876](http://www.uniprot.org/citations/12718876), PubMed: [15268862](http://www.uniprot.org/citations/15268862), PubMed: [15467718](http://www.uniprot.org/citations/15467718), PubMed: [24403073](http://www.uniprot.org/citations/24403073)). In response to nutrients, mTORC1 is recruited to the lysosome membrane and promotes protein, lipid and nucleotide synthesis by phosphorylating several

substrates, such as ribosomal protein S6 kinase (RPS6KB1 and RPS6KB2) and EIF4EBP1 (4E-BP1) (PubMed:12718876, PubMed:15268862, PubMed:15467718, PubMed:24403073). In the same time, it inhibits catabolic pathways by phosphorylating the autophagy initiation components ULK1 and ATG13, as well as transcription factor TFEB, a master regulators of lysosomal biogenesis and autophagy (PubMed:24403073). The mTORC1 complex is inhibited in response to starvation and amino acid depletion (PubMed:24403073). Within mTORC1, LST8 interacts directly with MTOR and enhances its kinase activity (PubMed:12718876). In nutrient-poor conditions, stabilizes the MTOR- RPTOR interaction and favors RPTOR-mediated inhibition of MTOR activity (PubMed:12718876). mTORC2 is also activated by growth factors, but seems to be nutrient-insensitive (PubMed:15467718). mTORC2 seems to function upstream of Rho GTPases to regulate the actin cytoskeleton, probably by activating one or more Rho-type guanine nucleotide exchange factors (PubMed:15467718). mTORC2 promotes the serum-induced formation of stress-fibers or F-actin (PubMed:15467718). mTORC2 plays a critical role in AKT1 'Ser-473' phosphorylation, which may facilitate the phosphorylation of the activation loop of AKT1 on 'Thr-308' by PDK1 which is a prerequisite for full activation (PubMed:15467718). mTORC2 regulates the phosphorylation of SGK1 at 'Ser-422' (PubMed:15467718). mTORC2 also modulates the phosphorylation of PRKCA on 'Ser-657' (PubMed:15467718).

Cellular Location

Lysosome membrane. Cytoplasm {ECO:0000250|UniProtKB:Q9Z2K5}. Note=Targeting to lysosomal membrane depends on amino acid availability: mTORC1 is recruited to lysosome membranes via interaction with GTP-bound form of RagA/RRAGA (or RagB/RRAGB) in complex with the GDP-bound form of RagC/RRAGC (or RagD/RRAGD), promoting its mTORC1 recruitment to the lysosomes

Tissue Location

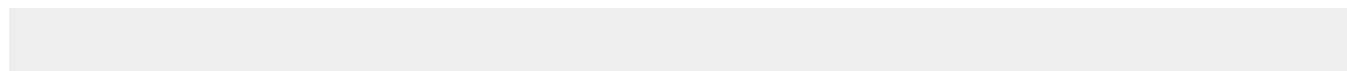
Broadly expressed, with highest levels in skeletal muscle, heart and kidney.

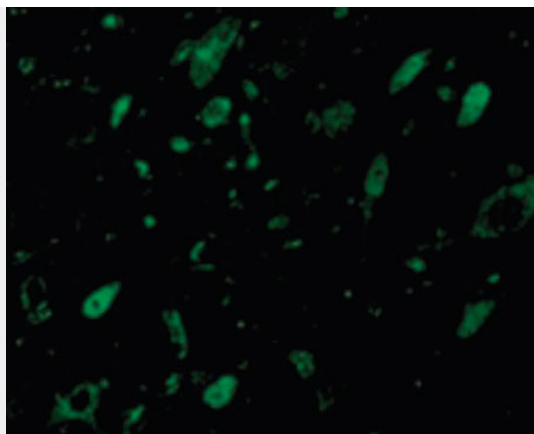
MLST8 / GBL Antibody (C-Terminus) - Protocols

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

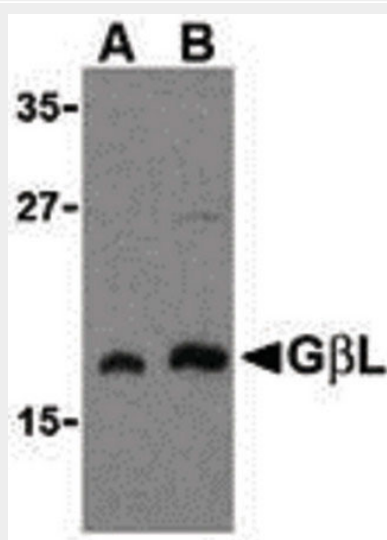
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

MLST8 / GBL Antibody (C-Terminus) - Images

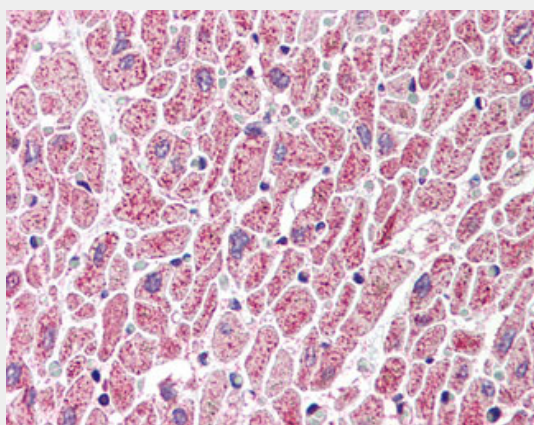




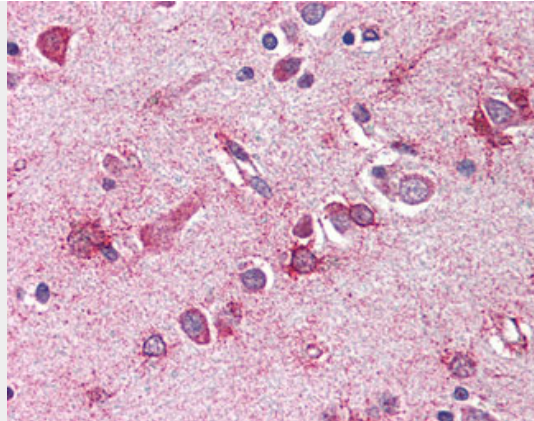
Immunofluorescence of GBL in Mouse Brain cells with GBL antibody at 10 ug/ml.



Western blot of GbL in human brain cell lysate with GbL antibody at (A) 1 and (B) 2 ug/ml.



Anti-GBL antibody IHC of human heart.



Anti-GBL antibody IHC of human brain, cortex.

MLST8 / GBL Antibody (C-Terminus) - Background

Subunit of both mTORC1 and mTORC2, which regulates cell growth and survival in response to nutrient and hormonal signals. mTORC1 is activated in response to growth factors or amino acids. Growth factor-stimulated mTORC1 activation involves a AKT1- mediated phosphorylation of TSC1-TSC2, which leads to the activation of the RHEB GTPase that potentially activates the protein kinase activity of mTORC1. Amino acid-signaling to mTORC1 requires its relocalization to the lysosomes mediated by the Ragulator complex and the Rag GTPases. Activated mTORC1 up-regulates protein synthesis by phosphorylating key regulators of mRNA translation and ribosome synthesis. mTORC1 phosphorylates EIF4EBP1 and releases it from inhibiting the elongation initiation factor 4E (eIF4E). mTORC1 phosphorylates and activates S6K1 at 'Thr-389', which then promotes protein synthesis by phosphorylating PDCD4 and targeting it for degradation. Within mTORC1, LST8 interacts directly with MTOR and enhances its kinase activity. In nutrient- poor conditions, stabilizes the MTOR-RPTOR interaction and favors RPTOR-mediated inhibition of MTOR activity. mTORC2 is also activated by growth factors, but seems to be nutrient-insensitive. mTORC2 seems to function upstream of Rho GTPases to regulate the actin cytoskeleton, probably by activating one or more Rho-type guanine nucleotide exchange factors. mTORC2 promotes the serum- induced formation of stress-fibers or F-actin. mTORC2 plays a critical role in AKT1 'Ser-473' phosphorylation, which may facilitate the phosphorylation of the activation loop of AKT1 on 'Thr-308' by PDK1 which is a prerequisite for full activation. mTORC2 regulates the phosphorylation of SGK1 at 'Ser-422'. mTORC2 also modulates the phosphorylation of PRKCA on 'Ser-657'.

MLST8 / GBL Antibody (C-Terminus) - References

Mao Y.,et al.Submitted (JAN-2003) to the EMBL/GenBank/DDBJ databases.
Ota T.,et al.Nat. Genet. 36:40-45(2004).
Martin J.,et al.Nature 432:988-994(2004).
Mural R.J.,et al.Submitted (SEP-2005) to the EMBL/GenBank/DDBJ databases.
Ramachandiran S.,et al.Submitted (OCT-1999) to the EMBL/GenBank/DDBJ databases.