

## Product datasheet for **RC210610L2V**

### **G protein beta subunit like (MLST8) (NM\_022372) Human Tagged ORF Clone Lentiviral Particle**

#### **Product data:**

|                           |  |
|---------------------------|--|
| Product Type:             | Lentiviral Particles   |
| Product Name:             | G protein beta subunit like (MLST8) (NM_022372) Human Tagged ORF Clone Lentiviral Particle   |
| Symbol:                   | G protein beta subunit like  |
| Synonyms:                 | GbetaL; GBL; LST8; POP3; WAT1  |
| Mammalian Cell Selection: | None   |
| Vector:                   | pLenti-C-mGFP (PS100071)   |
| Tag:                      | mGFP   |
| ACCN:                     | NM_022372  |
| ORF Size:                 | 978 bp   |
| ORF Nucleotide Sequence:  | The ORF insert of this clone is exactly the same as(RC210610).   |
| OTI Disclaimer:           | The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially in agreement with the reference, but a complete review of all prevailing variants is recommended prior to use. <a href="#">More info</a> |
| OTI Annotation:           | This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.   |
| RefSeq:                   | <a href="#">NM_022372.3</a>  |
| RefSeq Size:              | 1931 bp  |
| RefSeq ORF:               | 981 bp   |
| Locus ID:                 | 64223  |
| UniProt ID:               | <a href="#">Q9BVC4</a>   |
| Cytogenetics:             | 16p13.3  |
| Domains:                  | WD40   |



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**Protein Pathways:** mTOR signaling pathway

**MW:** 35.9 kDa

**Gene Summary:** 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 potently 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'.  
[UniProtKB/Swiss-Prot Function]