# Data Sheet (Cat.No.TMPY-02252)

TargetMol

## LAMTOR2 Protein, Human, Recombinant (His)

### General Information

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| Synonyms: | Ragulator2;p14;MAPBPIP;MAPKSP1AP;RP11-336K24.9;HSPC003;late endosomal/lysosomal adaptor, MAPK and MTOR activator 2;ENDAP;ROBLD3 |
| Protein Construction: | A DNA sequence encoding the mature form of human LAMTOR2 isoform 1 (Q9Y2Q5-1) (Met 1-Ser 125) was expressed, with a polyhistide tag at the N-terminus. Predicted N terminal: Met |
| Species: | Human |
| Expression Host: | E. coli |
| Accession: | Q9Y2Q5-1 |
| Molecular Weight: | 15 kDa (predicted); 13 kDa (reducing conditions) |

### QC Testing

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| Biological Activity: | Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first. |
| Purity: | > 97 % as determined by SDS-PAGE |
| Endotoxin: | Please contact us for more information. |
| Formulation: | Lyophilized from a solution filtered through a 0.22 μm filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization. |

### Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

### Protein Background

Ragulator complex protein LAMTOR2, also known as Endosomal adaptor protein p14, Late endosomal/lysosomal Mp1-interacting protein, Late endosomal/lysosomal adaptor and MAPK and MTOR activator 2, Mitogen-activated protein-binding protein-interacting protein, Roadblock domain-containing protein 3, LAMTOR2, MAPBPIP, and ROBLD3, is a protein which belongs to the GAMAD family. LAMTOR2 / ROBLD3 is a regulator of the TOR pathway, a

signaling cascade that promotes cell growth in response to growth factors, energy levels, and amino acids. As part of the Ragulator complex, LAMTOR2 / ROBLD3 recruits the Rag GTPases and the mTORC1 complex to lysosomes, a key step in the activation of the TOR signaling cascade by amino acids. LAMTOR2 / ROBLD3 is an adapter protein that enhances the efficiency of the MAP kinase cascade facilitating the activation of MAPK2. Defects in LAMTOR2 are the cause of immunodeficiency due to defects in MAPBP-interacting protein (ID-MAPBPIP). This form of primary immunodeficiency syndrome includes congenital neutropenia, partial albinism, short stature, and B-cell and cytotoxic T-cell deficiency.

Reference

Schroeder B., et al., 2007, Traffic 8:1676-1686.
Bohn G., et al., 2007, Nat. Med. 13:38-45.
Sancak Y., et al., 2010, Cell 141:290-303.
Burkard T.R., et al., 2011, BMC Syst. Biol. 5:17-17.