# Recombinant Mouse Alpha-2-macroglobulin receptor-associated protein (Lrpap1), partial

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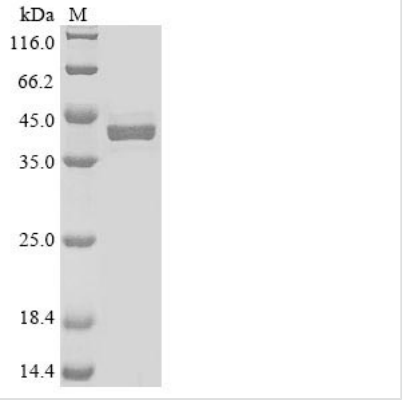
| **Product Code** | CSB-BP013104MO1e4 |
| **Abbreviation** | Recombinant Mouse Lrpap1 protein, partial |
| **Storage** | The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C. |
| **Uniprot No.** | P55302 |
| **Form** | Liquid or Lyophilized powder |
| **Storage Buffer** | If the delivery form is liquid, the default storage buffer is Tris/PBS-based buffer, 5%-50% glycerol. If the delivery form is lyophilized powder, the buffer before lyophilization is Tris/PBS-based buffer, 6% Trehalose. |
| **Product Type** | Recombinant Protein |
| **Immunogen Species** | Mus musculus (Mouse) |
| **Purity** | Greater than 85% as determined by SDS-PAGE. |
| **Sequence** | GYGSTTEFEEPRVIDLWDLAQSANFTEKELESFREELKHFEAKIEKHNHYQKQLEISHQKLKHVESIGDPEHISRNKEKYVLLEEKTKELGYKVKKHLQDLSSRVSRARHNEL |
| **Research Area** | Cardiovascular |
| **Source** | Baculovirus |
| **Target Names** | Lrpap1 |
| **Expression Region** | 248-360aa |
| **Notes** | Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week. |
| **Tag Info** | N-terminal GFP-tagged and C-terminal 6xHis-tagged |
| **Mol. Weight** | 42.3 kDa |
| **Protein Length** | Partial |
| **Image** | |




(Tris-Glycine gel) Discontinuous SDS-PAGE (reduced) with 5% enrichment gel and 15% separation gel.

## Description

Recombinant Mouse Alpha-2-macroglobulin receptor-associated protein (Lrpap1) gets produced using a baculovirus expression system and spans amino acids 248 to 360. The partially expressed protein carries a GFP tag at the N-terminus plus a 6xHis tag at the C-terminus, which helps with both purification and detection. SDS-PAGE analysis confirms the protein reaches greater than 85% purity, making it appropriate for various research applications.

Alpha-2-macroglobulin receptor-associated protein, or Lrpap1, appears to play a critical role in regulating lipoprotein metabolism and endocytosis. It works as a molecular chaperone, helping with proper folding and trafficking of low-density lipoprotein receptor-related proteins. Researchers often turn to Lrpap1 when studying receptor-mediated cellular processes since it may provide insights into lipid metabolism and related disorders.

### Potential Applications

Note: The applications listed below are based on what we know about this protein's biological functions, published research, and experience from experts in the field. However, we haven't fully tested all of these applications ourselves yet. We'd recommend running some preliminary tests first to make sure they work for your specific research goals.

#### 1. Protein-Protein Interaction Studies via Pull-Down Assays

The dual-tagged design of this recombinant Lrpap1 fragment works well for investigating protein-protein interactions through pull-down experiments. The 6xHis tag allows immobilization on nickel-based resins. Meanwhile, the GFP tag provides fluorescence-based detection and visualization. This partial protein fragment (248-360aa) likely retains specific binding domains that interact with LRP family receptors or other cellular proteins, though the exact binding capacity may vary. Such studies could help reveal the molecular mechanisms behind Lrpap1's role in receptor trafficking and cellular signaling pathways.

#### 2. Antibody Development and Validation

This recombinant protein fragment can work as an immunogen for creating antibodies specific to the 248-360aa region of mouse Lrpap1. The high purity (>85%) and defined amino acid sequence make it suitable for immunization

protocols in antibody production. The protein can also validate antibody specificity through ELISA, Western blot, or immunofluorescence assays, taking advantage of both the GFP fluorescence and His-tag for detection. These antibodies would likely become valuable research tools for studying endogenous Lrpap1 expression and localization in mouse cell lines and tissues.

**3. Structural and Biochemical Characterization Studies**

The defined 248-360aa fragment of Lrpap1 from the baculovirus system provides a reasonable substrate for biochemical and biophysical analyses. Researchers can examine the folding properties, stability, and structural characteristics of this specific protein domain using techniques like circular dichroism spectroscopy, dynamic light scattering, or analytical ultracentrifugation. The GFP tag may serve as an internal control for protein integrity, while the His-tag simplifies purification for downstream structural studies. These analyses could offer insights into the functional domains within this region of Lrpap1, though some structural features might differ from the full-length protein.

**4. Fluorescence-Based Cellular Uptake and Trafficking Studies**

The N-terminal GFP tag enables direct visualization of this Lrpap1 fragment in cell-based assays without needing additional labeling steps. Researchers can use this protein to study cellular uptake mechanisms, intracellular trafficking patterns, and subcellular localization in various mouse cell lines. The fluorescent properties allow for real-time monitoring using fluorescence microscopy or flow cytometry. Such studies could help clarify how this specific region of Lrpap1 behaves in cellular environments and its potential interactions with membrane-bound receptors, though results may not fully represent the behavior of the complete protein.

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| **Reconstitution** | We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Please reconstitute protein in deionized sterile water to a concentration of 0.1-1.0 mg/mL.We recommend to add 5-50% of glycerol (final concentration) and aliquot for long-term storage at -20°C/-80°C. Our default final concentration of glycerol is 50%. Customers could use it as reference. |
| **Shelf Life** | The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself.<br>Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C. |