

## ANGPT1/Angiopoietin-1 Protein, Mouse, Recombinant (His)

### General Information

Synonyms:	angiopoietin 1;Ang1;1110046O21Rik;Ang-1
Protein Construction:	A DNA sequence encoding the mouse Angpt1 (NP_033770.2) (Arg277-Phe498) was expressed with a polyhistidine tag at the N-terminus. Predicted N terminal: His
Species:	Mouse
Expression Host:	HEK293 Cells
Accession:	O08538
Molecular Weight:	28 kDa (predicted)

### QC Testing

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:	> 95 % as determined by SDS-PAGE.
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
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

The angiopoietin (ANGPT)-TIE2/TEK signaling pathway is essential for blood and lymphatic vascular homeostasis. ANGPT1 is a potent TIE2 activator, whereas ANGPT2 functions as a context-dependent agonist/antagonist. In disease, ANGPT2-mediated inhibition of TIE2 in blood vessels is linked to vascular leak, inflammation, and metastasis. Primary congenital glaucoma (PCG) is a leading cause of blindness in children worldwide and is caused by developmental defects in 2 aqueous humor outflow structures, Schlemm's canal (SC) and the trabecular

meshwork. We previously identified loss-of-function mutations in the angiopoietin (ANGPT) receptor TEK in families with PCG and showed that ANGPT/TEK signaling is essential for SC development. A role for the major ANGPT ligands in the development of the aqueous outflow pathway. We determined that ANGPT1 is essential for SC development, and that Angpt1-knockout mice form a severely hypomorphic canal with elevated intraocular pressure. By linking ANGPT1 with PCG, these results highlight the importance of ANGPT/TEK signaling in glaucoma pathogenesis and identify a candidate target for therapeutic development.

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