

## CALML5 Protein, Human, Recombinant (His & GST)

### General Information

Synonyms:	calmodulin like 5;CLSP
Protein Construction:	A DNA sequence encoding the human CALML5 (AAH39172.1) (Met 1-Glu 146) was fused with the N-terminal polyhistidine-tagged GST tag at the N-terminus. Predicted N terminal: Met
Species:	Human
Expression Host:	E. coli
Accession:	AAH39172.1
Molecular Weight:	44.2 kDa (predicted); 43 kDa (reducing conditions)

### 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:	> 92 % 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 20 mM Tris, 150 mM NaCl, 1 mM DTT, 0.5 mM GSH, 10% glycerol, pH 7.8. 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

Calmodulin-like protein 5, also known as Calmodulin-like skin protein, CALML5 and CLSP, is a protein which contains four EF-hand domains. CALML5 / CLSP is particularly abundant in the epidermis where its expression is directly related to keratinocyte differentiation. The expression is very low in lung. CALML5 / CLSP binds calcium. It may be involved in terminal differentiation of keratinocytes. Coxsackievirus and adenovirus receptor (CAR) is a

member of the immunoglobulin (Ig) superfamily and a component of epithelial tight junction. CAR functions as a primary receptor for coxsackievirus B and adenovirus (Ad) infection. CALML5 / CLSP is closely related to CAR. The structure and dynamics of human calmodulin-like skin protein CALML5 / CLSP have been characterized by NMR spectroscopy. The mobility of CALML5 / CLSP has been found to be different for the N-terminal and C-terminal domains. The N-terminal domain is characterized by four stable helices, which experience large fluctuations. This is shown to be due to mutations in the hydrophobic core. The overall N-terminal domain behavior is similar both in the full-length protein and in the isolated domain.

### Reference

- Mehul B., et al., 2000, J. Biol. Chem. 275:12841-12847.  
Babini E., et al., 2006, Structure 14:1029-1038.  
Kawabata, K. et al., 2007, Gene Ther. 14 (16):1199-207.

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