

## Serpin B4 Protein, Mouse, Recombinant (His)

### General Information

Synonyms:	Serpinb4;1110001H02Rik;1110013A16Rik;Serpinb3c;Scca2;serine (or cysteine) peptidase inhibitor, clade B, member 3C
Protein Construction:	A DNA sequence encoding the mouse SERPINB3C (NP_958751.2) (Met 1-Pro 386) was expressed, with a C-terminal polyhistidine tag. Predicted N terminal: Met 1
Species:	Mouse
Expression Host:	Baculovirus Insect Cells
Accession:	A2RSF9
Molecular Weight:	46.5 kDa (predicted); 46 & 95 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:	> 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 50 mM Tris 100 mM NaCl, pH 8.0. 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

Serpins are the largest and most diverse family of serine protease inhibitors which are involved in a number of fundamental biological processes such as blood coagulation, complement activation, fibrinolysis, angiogenesis, inflammation and tumor suppression and are expressed in a cell-specific manner. Serpins are a group of proteins with similar structures that were first identified as a set of proteins able to inhibit proteases. The acronym serpin

was originally coined because many serpins inhibit chymotrypsin-like serine proteases (serine protease inhibitors). Over 1 serpins have been identified. Mouse SerpinB3, also known as Squamous cell carcinoma antigen 1, SCCA-1, SERPINB3, SCCA and SCCA1, is a cytoplasm protein that belongs to the serpin family and Ov-serpin subfamily. SerpinB3 may act as a protease inhibitor to modulate the host immune response against tumor cells. Mouse SerpinB3a and SerpinB3b, but not Serpinb3c, are functional, inhibiting both serine and cysteine proteinases with different inhibitory profiles due to the difference of two amino acids in their reactive site loops. SerpinB3a is ubiquitously expressed in most tissues, whereas expression of SerpinB3b is limited to keratinocytes. SerpinB3a and SerpinB3b may play different roles by inhibiting intrinsic or extrinsic proteinases with different expression distributions and different inhibitory profiles.

### Reference

- Sakata, Y. et al., 2004, Biochem Biophys Res Commun. 324 (4):1340-5.  
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Steenbakkens P. J. et al., 2008, Mycol. Res. 112 (Pt 8): 999-1006.  
Przygodzka, P. et al., 2010, BMC Cell Biol. 11: 30.

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