

## Serpin B9 Protein, Human, Recombinant (His)

### General Information

Synonyms:	CAP-3;PI-9;CAP3;PI9;serpin peptidase inhibitor, clade B (ovalbumin), member 9;Serpin B9
Protein Construction:	Met1-Pro376
Species:	Human
Expression Host:	HEK293 Cells
Accession:	P50453
Molecular Weight:	43.4 kDa (predicted); 35-40 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 0.2 μm filtered solution of 20mM PB, 150mM NaCl, pH 7.4.

### Preparation and Storage

#### Reconstitution:

Reconstitute the lyophilized protein in distilled water. The product concentration should not be less than 100 μg/ml. Before opening, centrifuge the tube to collect powder at the bottom. After adding the reconstitution buffer, avoid vortexing or pipetting for mixing.

#### 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

SerpinB9, also known as Cytoplasmic antiproteinase 3, CAP-3, Peptidase inhibitor 9, SERPINB9 and PI-9, is a cytoplasm protein that belongs to the serpin family and Ov-serpin subfamily. Serpin-B9 ( CAP-3 / PI-9 ) is the only known human intracellular inhibitor of granzyme B (GrB), the effector molecule in immunity against cytomegalovirus (CMV) and in renal allograft rejection. Serpin-B9 and SPI-6 expression in immune-privileged cells, APCs, and CTLs protect these cells against the actions of granzyme B, and when expressed in tumor cells or virally infected hepatocytes, confers resistance to killing by CTL and NK cells. Expression of increasing levels of Serpin-B9

( CAP-3 / PI-9 ) in target cells may progressively inhibit immune surveillance by blocking NK and CTL-induced cytotoxicity through the perforin / granzyme pathway and then through the Fas / FasL pathway. Serpin-B9 ( CAP-3 / PI-9 ) is selectively up-regulated in hepatocytes in response to infiltration of the liver by NK cells that express perforin and enzymatically active granzyme B. Upregulated expression of Serpin-B9 ( CAP-3 / PI-9 ) in NSCLC cells may serve to protect them from apoptosis induced by GrB.

### Reference

- Rowshani,A.T. et al., 2005, J Infect Dis.192 (11): 1908-11.  
Cunningham,T.D. et al., 2007, Cell Immunol 245 (1): 32-41.  
Rousalova,I. et al., 2010, Int J Oncol 36 (1): 275-83.  
Stout-Delgado,H.W. et al., 2007, J Immunol. 179 (10):6561-7.

**Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins**

This product is for Research Use Only· Not for Human or Veterinary or Therapeutic Use

Tel:781-999-4286 E\_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481