

Human SerpinB9 / CAP-3 Protein (His Tag)

Catalog Number: 12838-H07B



Sino Biological Inc.
Biological Solution Specialist

General Information

Gene Name Synonym:

CAP-3; CAP3; PI-9; PI9; BB283241; CAP-3; CAP3; ovalbumin; PI-9; PI9; Spi6

Protein Construction:

A DNA sequence encoding the human SERPINB9 (P50453) (Glu 2-Pro 376) was expressed, with a polyhistidine tag at the N-terminus.

Source: Human

Expression Host: Baculovirus-Insect Cells

QC Testing

Purity: > 97 % as determined by SDS-PAGE

Endotoxin:

< 1.0 EU per µg of the protein as determined by the LAL method

Stability:

Samples are stable for up to twelve months from date of receipt at -70 °C

Predicted N terminal: Met

Molecular Mass:

The recombinant human SERPINB9 consists of 394 amino acids and predicts a molecular mass of 44.5 kDa. It migrates as an approximately 43 kDa band in SDS-PAGE under reducing conditions.

Formulation:

Lyophilized from sterile 50mM Tris, 100mM NaCl, pH 7.4

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

Usage Guide

Storage:

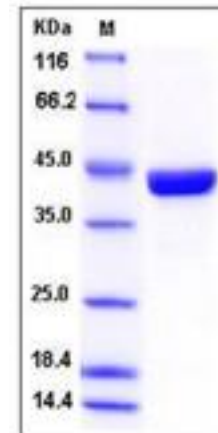
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

SerpinB9, also known as Cytoplasmic antiproteinase 3, CAP-3, Peptidase inhibitor 9, SERPINB9 and PI-9, is a cytoplasm protein which 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 protects 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.

References

1. Rowshani, A.T. et al., 2005, J Infect Dis. 192 (11): 1908-11.
2. Cunningham, T.D. et al., 2007, Cell Immunol 245 (1): 32-41.
3. Rousalova, I. et al., 2010, Int J Oncol 36 (1): 275-83.

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