Features

- Designed under ISO 9001:2015 and ISO 13485:2016
- Manufactured and QC tested under a GMP compliance factory
- Animal-Free materials
- Beta-lactam materials free
- Batch-to-batch consistency
- Stringent quality control tests

Source

GMP Human VCAM-1 Protein, Fc Tag(GMP-VC1H25) is expressed from human 293 cells (HEK293). It contains AA Phe 25 - Glu 698 (Accession # P19320-1).
Predicted N-terminus: Phe 25

Molecular Characterization

VCAM-1(Phe 25 - Glu 698) P19320-1	Fc(Pro 100 - Lys 330) P01857

This protein carries a human IgG1 Fc tag at the C-terminus.

The protein has a calculated MW of 100.7 kDa. The protein migrates as 126 kDa±5 kDa when calibrated against Star Ribbon Pre-stained Protein Marker under reducing (R) condition (SDS-PAGE) due to glycosylation.

Endotoxin

Less than 10 EU/mg by the LAL method.

Protein A

<5 ppm of protein tested by ELISA.

Host Cell Protein

<0.5 ng/μg of protein tested by ELISA.

Host Cell DNA

<0.02 ng/μg of protein tested by qPCR.

Sterility

The sterility testing was performed by membrane filtration method described in CP<1101>, USP<71> and Eur. Ph. 2.6.1.

Mycoplasma

Negative.

Purity

>95% as determined by SDS-PAGE.

Formulation

Lyophilized from 0.22 μm filtered solution in PBS, pH7.4 with protectants.

Contact us for customized product form or formulation.

Shipping

This product is supplied and shipped with blue ice, please inquire the shipping cost.

Storage

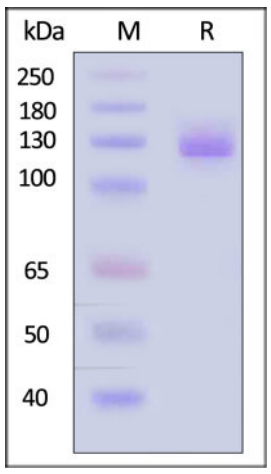
Upon receipt, store it immediately at -20°C or lower for long term storage.

Please avoid repeated freeze-thaw cycles.

This product is stable after storage at:

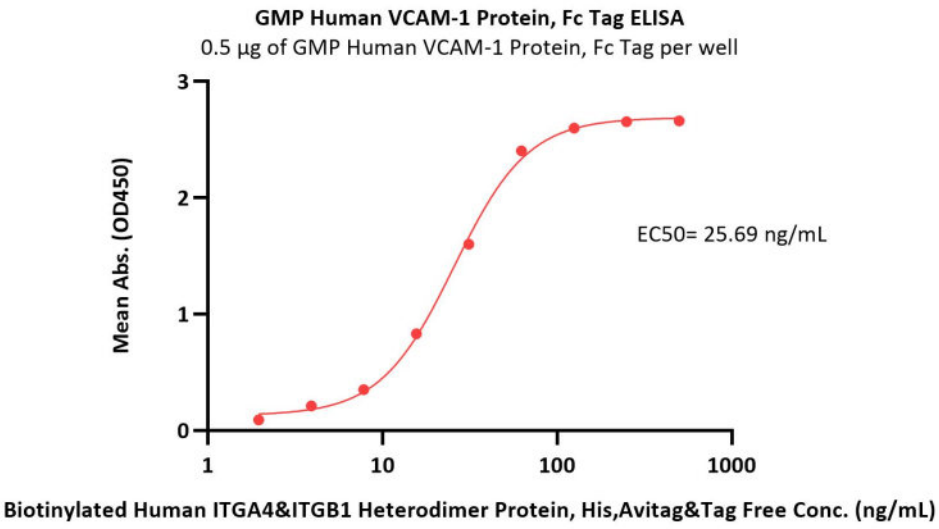
- -20°C to -70°C for 5 years in lyophilized state;
- -70°C for 12 months under sterile conditions after reconstitution.

SDS-PAGE



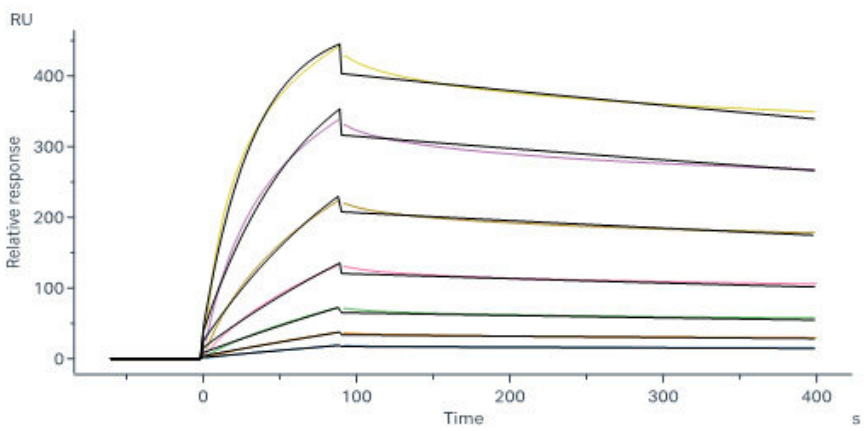
GMP Human VCAM-1 Protein, Fc Tag on SDS-PAGE under reducing (R) condition. The gel was stained with Coomassie Blue. The purity of the protein is greater than 95% (With Star Ribbon Pre-stained Protein Marker).

Bioactivity-ELISA



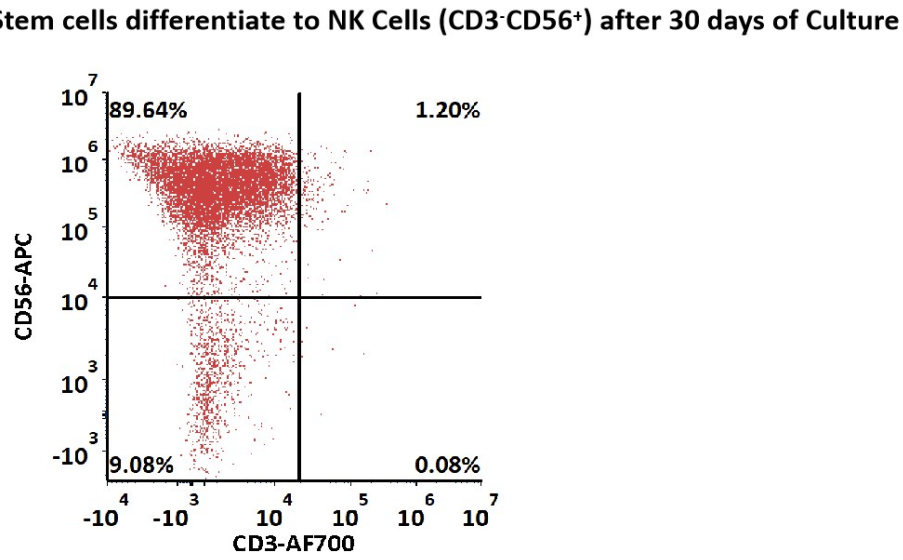
Immobilized GMP Human VCAM-1 Protein, Fc Tag (Cat. No. GMP-VC1H25) at 5 μg/mL (100 μL/well) can bind Biotinylated Human ITGA4&ITGB1 Heterodimer Protein, His,Avitag&Tag Free (Cat. No. IT1-H82W1) with a linear range of 2-63 ng/mL (Routinely tested).

Bioactivity-SPR



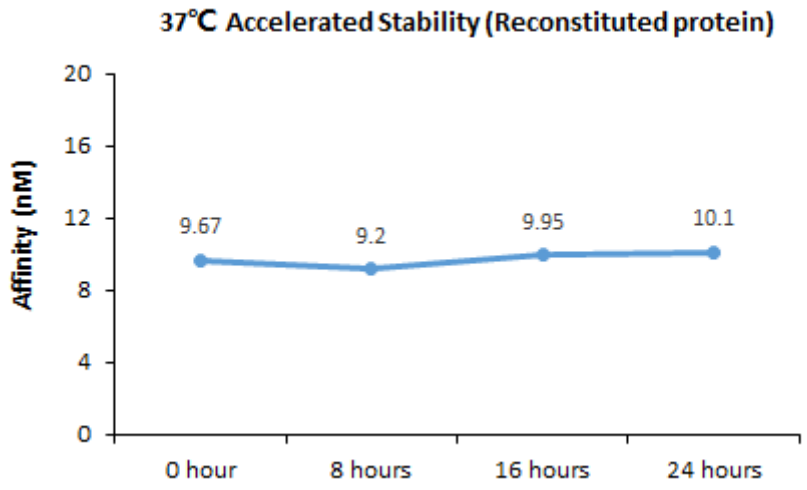
GMP Human VCAM-1 Protein, Fc Tag (Cat. No. GMP-VC1H25) captured on Protein A Chip can bind Human ITGA4&ITGB1 Heterodimer Protein, His Tag&Tag Free (Cat. No. IT1-H52W1) with an affinity constant between 1.00 nM - 50.0 nM as determined in a SPR assay (Biacore 8K) (QC tested).

Application Data

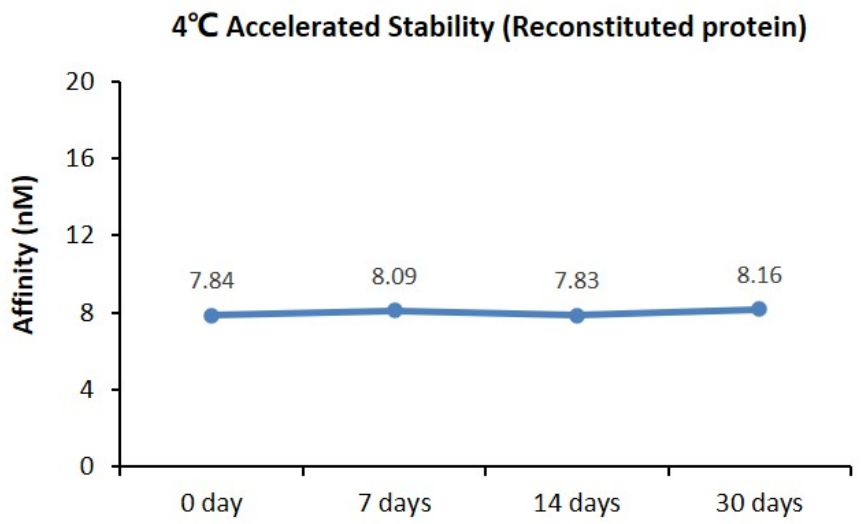


The Recombinant Fibronectin fragment, premium grade (Cat. No. FIN-H5116) combined with GMP Human DLL4 Protein, Fc Tag (Cat. No. GMP-DL4H28), GMP Human VCAM-1 Protein, Fc Tag (Cat. No. GMP-VC1H25) coating on the plate could efficiently induce hematopoietic stem cells differentiation to NK cells, with high expression of CD56+ CD3-.

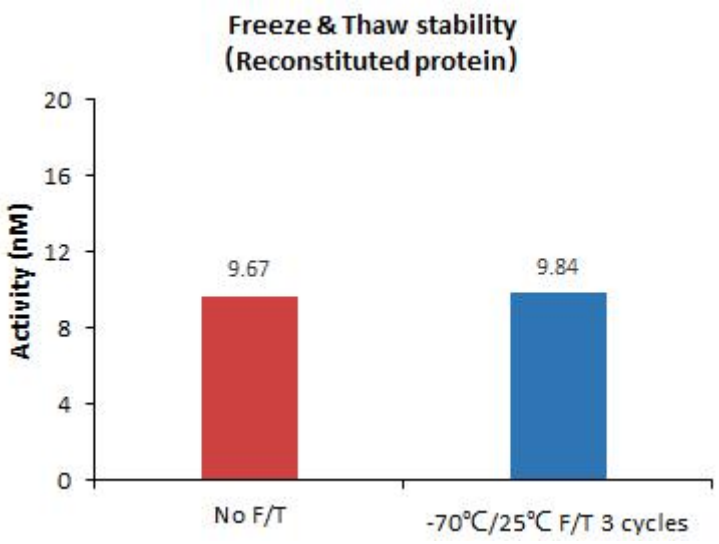
Bioactivity-Stability



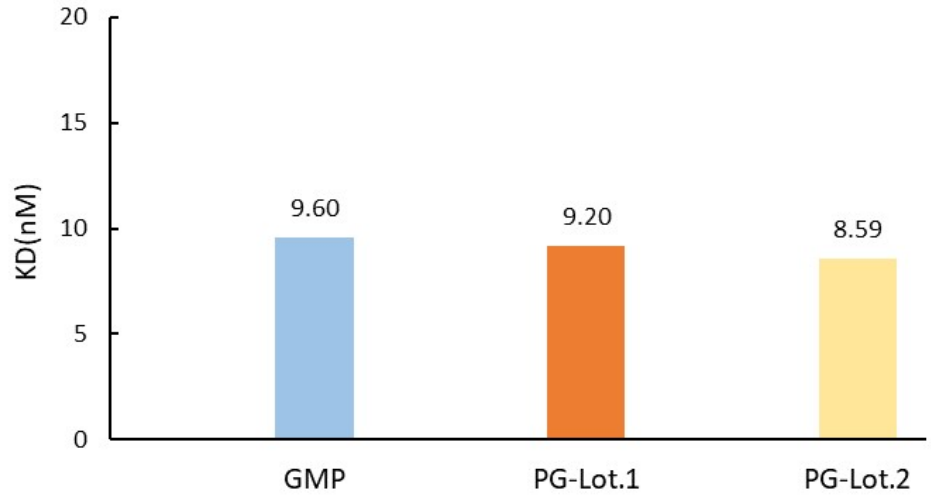
The Cell based assay shows that GMP Human VCAM-1 Protein, Fc Tag (Cat. No. GMP-VC1H25) is stable at 37℃ for 24 hours.



The SPR based assay shows that GMP Human VCAM-1 Protein, Fc Tag (Cat. No. GMP-VC1H25) is stable at 4℃ for 30 days.



The Cell based assay shows that GMP Human VCAM-1 Protein, Fc Tag (Cat. No. GMP-VC1H25) is stable after freezing and thawing 3 times.



The SPR based assay shows batch-to-batch consistency between Acro's GMP and PG VCAM-1.

MANUFACTURING SPECIFICATIONS

ACROBiosystems GMP grade products are produced under a quality management system and in compliance with relevant guidelines: Ph. Eur General Chapter 5.2.12 Raw materials of biological origin for the production of cell-based and gene therapy medicinal products; USP<92>Growth Factors and Cytokines Used in Cell Therapy Manufacturing; USP<1043>Ancillary Materials for Cell, Gene, and Tissue-Engineered Products; ISO/TS 20399-1:2018, Biotechnology - Ancillary Materials Present During the Production of Cellular Therapeutic Products.

ACROBiosystems Quality Management System Contents：

Designed under ISO 9001:2015 and ISO 13485:2016, Manufactured and QC tested under a GMP compliance factory.

Animal-Free materials

Materials purchased from the approved suppliers by QA

ISO 5 clean rooms and automatic filling equipment

Qualified personnel

Quality-related documents review and approve by QA

Fully batch production and control records

Equipment maintenance and calibration

Validation of analytical procedures

Stability studies conducted

Comprehensive regulatory support files

Request For Regulatory Support Files（RSF）

ACROBiosystems provide rigorous quality control tests (fully validated equipment, processes and test methods) on our GMP grade products to ensure that they meet stringent standards in terms of purity, safety, activity and inter-batch stability, and each bulk QC lot mainly contains the following specific information:

SDS-PAGE

Protein content

Endotoxin level

Residual Host Cell DNA content

Residual Host Cell Protein content

Biological activity analysis

Microbial testing

Mycoplasma testing

In vitro virus assay

Residual moisture

Batch-to-batch consistency

Background

Vascular cell adhesion protein 1 (VCAM1) is also known as CD106, INCAM-100 and L1CAM, is a cell surface sialoglycoprotein belonging to the immunoglobulin superfamily. VCAM1 / CD106 contains 7 Ig-like C2-type (immunoglobulin-like) domains. CD106 / VCAM-1 is expressed on inflammed vascular endothelium, as well as on macrophage-like and dendritic cell types in both normal and inflammed tissue. L1CAM / VCAM-1 is Important in cell-cell recognition and appears to function in leukocyte-endothelial cell adhesion. CD106 / VCAM1 interacts with the beta-1 integrin VLA4 on leukocytes, and mediates both adhesion and signal transduction. The VCAM1 / VLA4 interaction may play a pathophysiologic role both in immune responses and in leukocyte emigration to sites of inflammation. INCAM-100 / VCAM1 binds to ECMV-D capsid proteins and acts as a receptor for this virus.

Clinical and Translational Updates