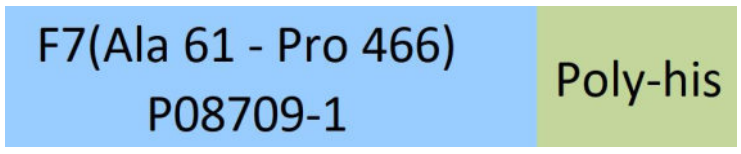
### Synonym

Coagulation factor VII,F7,SPCA,Proconvertin

### Source

Human Coagulation factor VII, His Tag(TF7-H52H5) is expressed from human 293 cells (HEK293). It contains AA Ala 61 - Pro 466 (Accession # P08709-1).

### Molecular Characterization




This protein carries a polyhistidine tag at the C-terminus.

The protein has a calculated MW of 47.1 kDa. The protein migrates as 50-60 kDa when calibrated against Star Ribbon Pre-stained Protein Marker under reducing (R) condition (SDS-PAGE) due to glycosylation.

### Endotoxin

Less than 1.0 EU per µg by the LAL method.

### Purity

>95% as determined by SDS-PAGE.

### Formulation

Lyophilized from 0.22 µm filtered solution in 50 mM Tris,150 mM NaCl, pH7.5 with trehalose as protectant.

Contact us for customized product form or formulation.

### Reconstitution

Please see Certificate of Analysis for specific instructions.

***For best performance, we strongly recommend you to follow the reconstitution protocol provided in the CoA.***

### Storage

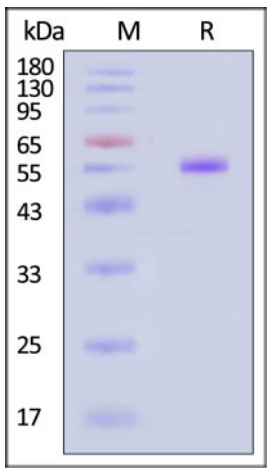
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

***Please avoid repeated freeze-thaw cycles.***

This product is stable after storage at:

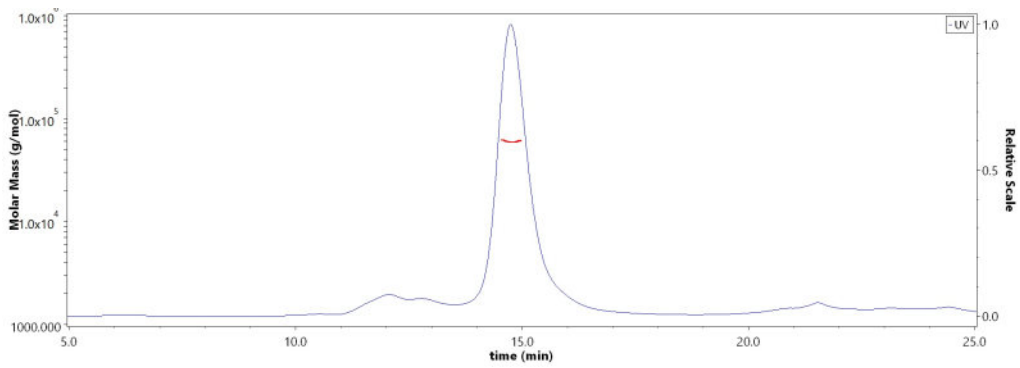
- -20°C to -70°C for 12 months in lyophilized state;
- -70°C for 3 months under sterile conditions after reconstitution.

### SDS-PAGE




Human Coagulation factor VII, His 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).

### SEC-MALS




The purity of Human Coagulation factor VII, His Tag (Cat. No. TF7-H52H5) is more than 85% and the molecular weight of this protein is around 50-65 kDa verified by SEC-MALS.
Report

### Bioactivity

Measured by its ability to cleave the fluorogenic peptide substrate Boc-VPR-AMC. The specific activity is >80 pmol/min/µg, as measured under the described conditions (QC tested).

## Background

Coagulation factor VII is also known as F7, SPCA and Proconvertin. Heterodimer of a light chain and a heavy chain linked by a disulfide bond. Initiates the extrinsic pathway of blood coagulation. Serine protease that circulates in the blood in a zymogen form. Factor VII is converted to factor VIIa by factor Xa, factor XIIa, factor IXa, or thrombin by minor proteolysis. In the presence of tissue factor and calcium ions, factor VIIa then converts factor X to factor Xa by limited proteolysis. Factor VIIa will also convert factor IX to factor IXa in the presence of tissue factor and calcium.

## Clinical and Translational Updates