# Human Hyaluronidase PH-20 / SPAM1 Protein, Tag Free (active enzyme, MALS verified)

Catalog # PH0-H5219



#### **Source**

Human Hyaluronidase PH-20 Protein, Tag Free(PH0-H5219) is expressed from human 293 cells (HEK293). It contains AA Leu 36 - Ser 490 (Accession # P38567-1).

Predicted N-terminus: Leu 36

#### **Molecular Characterization**

PH20(Leu 36 - Ser 490) P38567-1

This protein carries no "tag".

The protein has a calculated MW of 52.6 kDa. The protein migrates as 65-70 kDa under reducing (R) condition (SDS-PAGE) due to glycosylation.

## **Endotoxin**

Less than 0.1 EU per µg by the LAL method.

# **Purity**

>95% as determined by SDS-PAGE.

>95% as determined by SEC-MALS.

# **Formulation**

Lyophilized from 0.22  $\mu m$  filtered solution in 50 mM Tris, 100 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

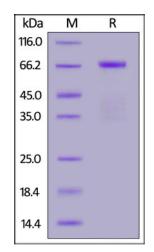
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

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**

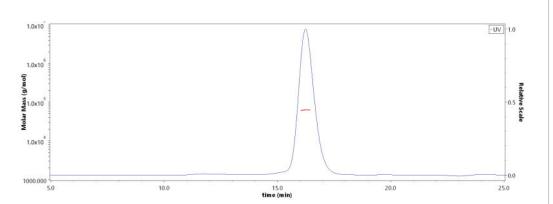


Human Hyaluronidase PH-20 Protein, Tag Free on SDS-PAGE under reducing (R) condition. The gel was stained with Coomassie Blue. The purity of the protein is greater than 95%.

## **Bioactivity**

The activity of Hyaluronidase PH-20 is measured by its ability to hydrolyze HA in turbidimetric assay (45 minute assay). The specific activity is >55000 U/mg. (Unit Definition: One unit of Hyaluronidase activity will cause a change

## **SEC-MALS**



The purity of Human Hyaluronidase PH-20 Protein, Tag Free (Cat. No. PH0-H5219) is more than 95% and the molecular weight of this protein is around 53-71 kDa verified by SEC-MALS.

Repor



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in A600 of 0.330 per minute at pH5.35 at 37 °C in a 2.0 mL reaction mixture) (QC tested).

# **Background**

Hyaluronidase PH-20 is also known as Sperm adhesion molecule 1 (SPAM1) and Sperm surface protein PH-20, which belongs to the glycosyl hydrolase 56 family, SPAM1 / PH-20 is expressed in testis. SPAM-1 / PH20 random hydrolysis of (1->4)-linkages between N – acetyl – beta – D – glucosamine and D-glucuronate residues in hyaluronate. SPAM-1 / PH20 involved in sperm-egg adhesion. Upon fertilization sperm must first penetrate a layer of cumulus cells that surrounds the egg before reaching the zona pellucida. The cumulus cells are embedded in a matrix containing hyaluronic acid which is formed prior to ovulation. SPAM1 aids in penetrating the layer of cumulus cells by digesting hyaluronic acid.

**Clinical and Translational Updates** 

