Human PSMA / FOLH1 Protein, His Tag (active enzyme, MALS verified)

Catalog # PSA-H52H3

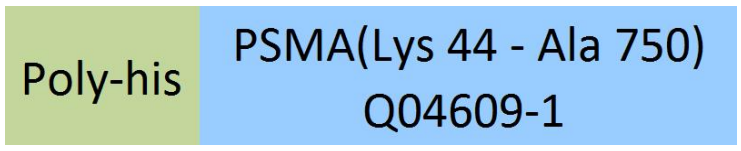
Synonym

FOLH1,PSMA,GIG27,FOLH,NAALAD1,PSM,NAALADase I,GCPII,FGCP

Source

Human PSMA, His Tag(PSA-H52H3) is expressed from human 293 cells (HEK293). It contains AA Lys 44 - Ala 750 (Accession # Q04609-1).
Predicted N-terminus: His

Molecular Characterization



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

The protein has a calculated MW of 81.4 kDa. The protein migrates as 95-115 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 / rFC method.

Purity

>95% as determined by SDS-PAGE.

Formulation

Lyophilized from 0.22 μm filtered solution in MES and NaCl 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

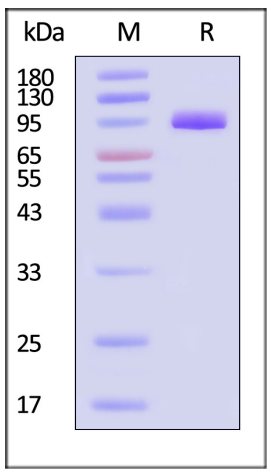
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

Please avoid repeated freeze-thaw cycles.

This product is stable after storage at:

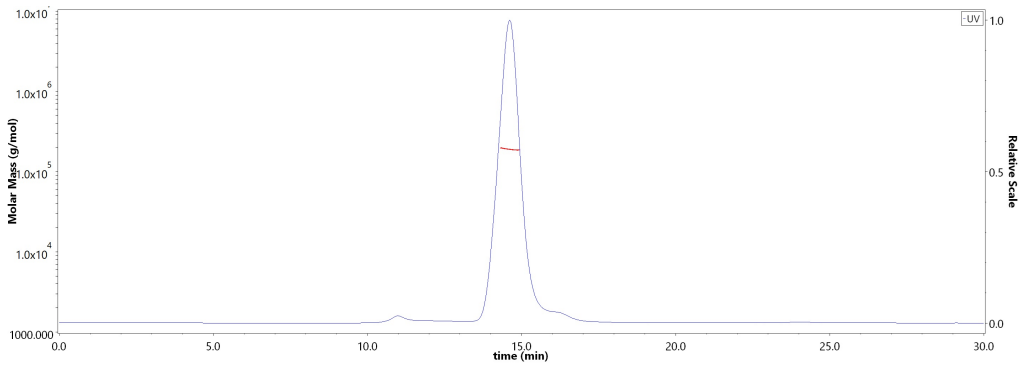
- -20°C to -70°C for 12 months in lyophilized state;
- -70°C for 3 months under sterile conditions after reconstitution.

SDS-PAGE



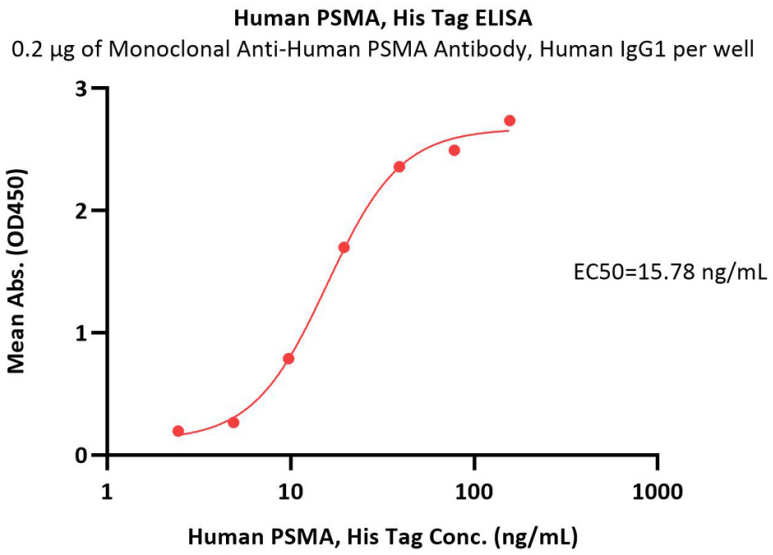
Human PSMA, His Tag on SDS-PAGE under reducing (R) condition. The gel was stained with Coomassie Blue. The purity of the protein is greater than 95% (With Star Ribbon Pre-stained Protein Marker).

SEC-MALS

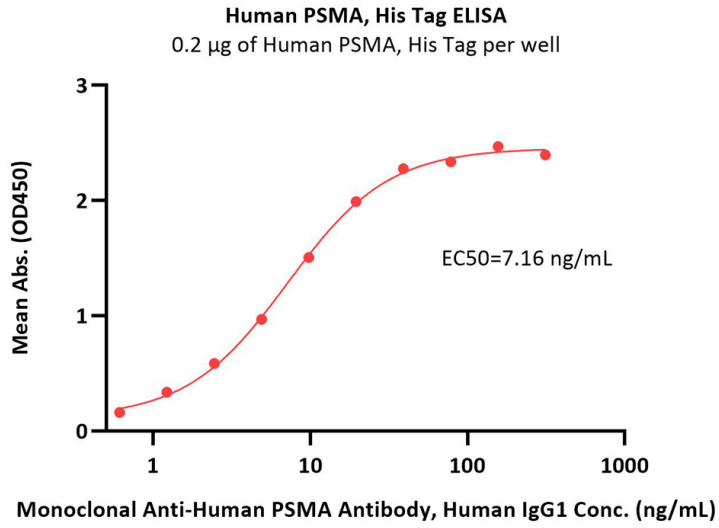


The purity of Human PSMA, His Tag (Cat. No. PSA-H52H3) is more than 85% and the molecular weight of this protein is around 180-220 kDa verified by SEC-MALS.
Report

Bioactivity-ELISA

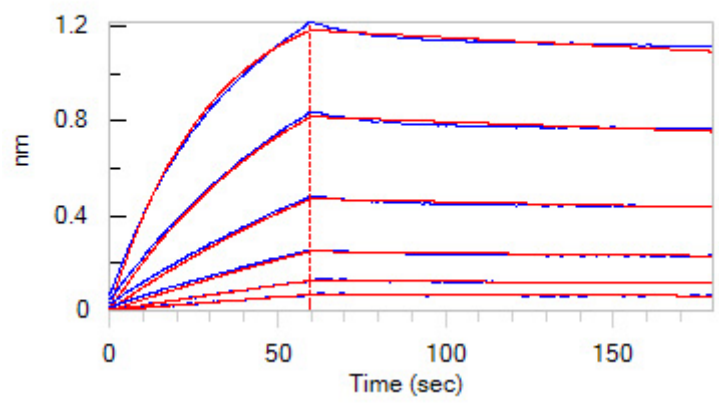


Immobilized Monoclonal Anti-Human PSMA Antibody, Human IgG1 at 2 μg/mL (100 μL/well) can bind Human PSMA, His Tag (Cat. No. PSA-H52H3) with a linear range of 2-39 ng/mL (QC tested).



Immobilized Human PSMA, His Tag (Cat. No. PSA-H52H3) at 2 μg/mL (100 μL/well) can bind Monoclonal Anti-Human PSMA Antibody, Human IgG1 with a linear range of 0.3-39 ng/mL (Routinely tested).

Bioactivity-BLI



Loaded Monoclonal Anti-Human PSMA Antibody, Human IgG1 on Protein A Biosensor, can bind Human PSMA, His Tag (Cat. No. PSA-H52H3) with an affinity constant of 1.98 nM as determined in BLI assay (ForteBio Octet RED96e) (Routinely tested).

Bioactivity

Measured by its ability to hydrolyze the substrate N-acetyl-L-Asp-L-Glu into N-acetyl-L-Asp and L-Glu. The L-Glu product is measured by fluorescence after its derivatization by ortho-phthaldialdehyde. The specific activity is >400 pmol/min/μg, as measured under the described conditions (QC tested).

Background

Prostate-specific membrane antigen (PSMA) is also known as Folate hydrolase 1 (FOLH1), Glutamate carboxypeptidase 2 (GCP2), N-acetylated-alpha-linked acidic dipeptidase I (NAALAD1), which belongs to the peptidase M28 family and M28B subfamily. FOLH1 / PSMA is stable at pH greater than 6.5. FOLH1 / PSMA is a type II transmembrane zinc metallopeptidase that is most highly expressed in the nervous system, prostate, kidney, and small intestine. FOLH1 / GCP-2 is homodimer and binds 2 zinc ions per subunit, and required for NAALADase activity. The catalytic activity of PSMA involved in releasing of an unsubstituted, C-terminal glutamyl residue, typically from Ac-Asp-Glu or folylpoly – gamma - glutamates. FOLH1 / GCP-2 / PSMA has both folate hydrolase and N – acetylated –

alpha – linked - acidic dipeptidase (NAALADase) activity and has a preference for tri-alpha-glutamate peptides. GCP-2 / PSMA involved in prostate tumor progression and also exhibits a dipeptidyl-peptidase IV type activity. In vitro, cleaves Gly-Pro-AMC.