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Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
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PRODUCT INFORMATION

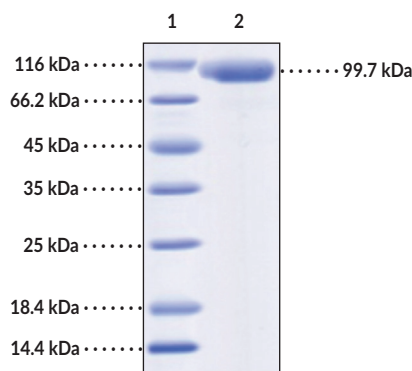
PSMA Extracellular Domain (human, recombinant) - Biotinylated Item No. 42001

Overview and Properties

Synonyms:	Folate Hydrolase 1, FOLH1, GCP11, Glutamate Carboxypeptidase II, NAALADase, Prostate-specific Membrane Antigen
Source:	Recombinant human N-terminal His-tagged biotinylated PSMA extracellular domain expressed in HEK293 cells
Amino Acids:	44-750
Molecular Weight:	82.72 kDa
Storage:	-80°C (as supplied)
Stability:	≥1 year
Purity:	≥95% estimated by SDS-PAGE
Supplied in:	Lyophilized from sterile PBS, pH 7.4
Endotoxin Testing:	<1.0 EU/μg, determined by the LAL endotoxin assay
Bioactivity:	See figure for details

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Image



Lane 1: MW Markers

Lane 2: PSMA Extracellular Domain

SDS-PAGE Analysis of PSMA Extracellular Domain. This protein has a calculated molecular weight of 82.72 kDa.

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

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PRODUCT INFORMATION



Description

Prostate-specific membrane antigen (PSMA) is a type II membrane glycoprotein and glutamate-preferring carboxypeptidase with roles in folic acid utilization and metabolism that is encoded by *FOLH1* in humans.^{1,2} It is composed of a short intracellular sequence, a transmembrane domain, and a large extracellular region, which contains enzymatic domains.^{1,4} PSMA is expressed in prostate epithelial cells and in the proximal small intestine, where it promotes folate uptake by cleaving glutamate from folypoly-γ-glutamate, and in the central nervous system, where it regulates neurotransmitter activity by cleaving glutamate from N-acetyl-aspartyl-glutamate (NAAG).^{2,5} It is also highly overexpressed in prostate carcinomas and in the neovasculature of various renal, colon, and breast carcinomas to support the need for folate in these rapidly dividing cells.^{2,5} Expression of *FOLH1* increases under androgen deprivation conditions *in vitro* and *in vivo* and positively correlates with cancer aggressiveness in patients with prostate cancer.³ PSMA PET imaging is commonly used in the diagnosis and staging of prostate cancer, as well as to assess therapeutic response.⁴ Cayman's PSMA Extracellular Domain (human, recombinant) - Biotinylated protein consists of 732 amino acids and has a calculated molecular weight of 82.72 kDa. By SDS-PAGE, under reducing conditions, the apparent molecular mass of the protein is 99.7 kDa due to glycosylation.

References

1. Chang, S.S. Overview of prostate-specific membrane antigen. *Rev. Urol.* **10(Suppl. 10)**, S13-S18 (2004).
2. Mannweiler, S., Amersdorfer, P., Trajanoski, S., *et al.* Heterogeneity of prostate-specific membrane antigen (PSMA) expression in prostate carcinoma with distant metastasis. *Pathol. Oncol. Res.* **15(2)**, 167-172 (2009).
3. Chang, S.S. Overview of prostate-specific membrane antigen. *Rev. Urol.* **10(Suppl. 10)**, S13-S18 (2004).
4. de Galiza Barbosa, F., Queiroz, M.A., Nunes, R.F., *et al.* Nonprostatic diseases on PSMA PET imaging: A spectrum of benign and malignant findings. *Cancer Imaging* **20(1)**, 23 (2020).
5. Ghosh, A. and Heston, W.D.W. Tumor target prostate specific membrane antigen (PSMA) and its regulation in prostate cancer. *J. Cell. Biochem.* **91(3)**, 528-239 (2004).

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