

PSMA Protein, Human (HEK293, N-His)

Cat. No.:	HY-P70548A
Synonyms:	Glutamate carboxypeptidase 2; FGCP; GCPII; mGCP; NAALADase I; PSMA; Cell growth-inhibiting gene 27 protein; Folate hydrolase 1
Species:	Human
Source:	HEK293
Accession:	Q04609 (K44-A750)
Gene ID:	2346
Molecular Weight:	80-120 kDa

PROPERTIES

AA Sequence

KSSNEATNIT	PKHNMKAFLD	ELKAENIKKF	LYNFTQIPHL
AGTEQNFQLA	KQIQSQWKEF	GLDSVELAHY	DVLLSYPNKT
HPNYISIIINE	DGNEIFNTSL	FEP PPPGYEN	VSDIVPPFSA
FSPQGMPEGD	LVYVNYARTE	DFFKLERDMK	INCSGKIVIA
RYGKVFRGNK	VKNAQLAGAK	GVILYSDPAD	YFAPGVKSYP
DGWNLPGGGV	QRGNILNLNG	AGDPLTPGYP	ANEYAYRRGI
A EAVGLPSIP	VHPIGYYDAQ	KLLEKMGGSA	PPDSSWRGSL
KVPYNVGPGF	TGNFSTQKVK	MHIHSTNEVT	RIYNVIGTLR
GAVEPDRYVI	LGGHRDSWVF	GGIDPQSGAA	VVHEIVRSFG
TLKKEGWRPR	RTLIFASWDA	EEFGLLGSTE	WAEENSRL LQ
ERGVAYINAD	SSIEGNYTLR	VDCTPLMYSL	VHNLTKELKS
PDEGFEGKSL	YESWTKKSPS	PEFSGMPRIS	KLGS GND FEV
FFQRLGIASG	RARYTKNWET	NKFSGYPLYH	SVYETYELVE
KFYDPMFKYH	LTVAQVRGGM	VFELANSIVL	PFDCRDYAVV
LRKYADKIYS	ISMKHPQEMK	TYSVSFDSL F	SAVKNFTEIA
SKFSERLQDF	DKSNPIVLRM	MNDQLMFLER	AFIDPLGLPD
RPFYRHVIYA	PSSHNKYAGE	SFPGIYDALF	DIESKVDPSK
AWGEVKRQIY	VAAFTVQAAA	ETLSEVA	

Biological Activity

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-phthalaldehyde. The specific activity is 558.1 pmol/min/μg, as measured under the described conditions.

Appearance

Lyophilized powder.

Formulation

Lyophilized from a 0.22 μm filtered solution of 20 mM MES, 150 mM NaCl, pH 5.5.

Endotoxin Level

<1 EU/μg, determined by LAL method.

Reconstitution

It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH₂O. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose).

Storage & Stability

Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.

Shipping

Room temperature in continental US; may vary elsewhere.

DESCRIPTION**Background**

PSMA, a multifaceted enzyme, showcases both folate hydrolase and N-acetylated-alpha-linked-acidic dipeptidase (NAALADase) activities, displaying a notable preference for tri-alpha-glutamate peptides. It plays a crucial role in the intestinal uptake of folate, contributing to essential metabolic processes. Within the brain, PSMA acts as a modulator of excitatory neurotransmission by hydrolyzing the neuropeptide N-acetylaspartylglutamate (NAAG), leading to the release of glutamate. Notably, PSMA's involvement in prostate tumor progression highlights its potential significance in cancer biology. Additionally, the enzyme exhibits dipeptidyl-peptidase IV type activity and effectively cleaves Gly-Pro-AMC in vitro, further emphasizing its diverse enzymatic functions.

Caution: Product has not been fully validated for medical applications. For research use only.

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