

Product datasheet

Glutamate Carboxypeptidase II Activity Assay Kit ab284558

[3 Images](#)

Overview

Product name	Glutamate Carboxypeptidase II Activity Assay Kit
Detection method	Fluorescent
Sample type	Tissue Homogenate, Purified protein
Assay type	Enzyme activity
Sensitivity	0.5 µU
Assay duration	Multiple steps standard assay
Product overview	This Glutamate Carboxypeptidase II Activity Assay Kit (ab284558) (previously known as PicoProbe Glutamate Carboxypeptidase II Activity Assay Kit K738) is a simple plate-based fluorometric assay for the measurement of Glutamate Carboxypeptidase II (GCP II) activity in Biological Samples. The provided substrate is transaminated in the presence of GCP II producing glutamate. The detection system is based on an enzymatic reaction in which a fluorogenic probe is reduced generating a stable signal. The reduced fluorophore produces a strong signal which is directly proportional to the amount of active GCP II in samples. The assay can detect as low as 0.5 µU of Glutamate Carboxypeptidase II.
Notes	This product is manufactured by BioVision, an Abcam company and was previously called K738 PicoProbe™ Glutamate Carboxypeptidase II Activity Assay Kit. K738-100 is the same size as the 100 test size of ab284558.
Platform	Microplate (12 x 8 well strips)

Properties

Storage instructions Store at -20°C. Please refer to protocols.

Components	Identifier	100 tests
GCP II Assay Buffer	NM cap	1 x 35ml
GCP II Developer	Red cap	1 vial
GCP II Enzyme Mix	Green cap	1 vial

Components	Identifier	100 tests
GCPII Positive Control	Purple cap	1 vial
GCPII Substrate	Orange cap	1 x 35µl
Glutamate Standard (0.1 M)	Yellow cap	1 x 0.1ml
PicoProbe (in DMSO)	Blue cap	1 x 0.4ml

Function

Has both folate hydrolase and N-acetylated-alpha-linked-acidic dipeptidase (NAALADase) activity. Has a preference for tri-alpha-glutamate peptides. In the intestine, required for the uptake of folate. In the brain, modulates excitatory neurotransmission through the hydrolysis of the neuropeptide, N-acetylaspartylglutamate (NAAG), thereby releasing glutamate. Isoform PSM-4 and isoform PSM-5 would appear to be physiologically irrelevant. Involved in prostate tumor progression.

Also exhibits a dipeptidyl-peptidase IV type activity. In vitro, cleaves Gly-Pro-AMC.

Tissue specificity

Highly expressed in prostate epithelium. Detected in urinary bladder, kidney, testis, ovary, fallopian tube, breast, adrenal gland, liver, esophagus, stomach, small intestine, colon and brain (at protein level). Detected in the small intestine, brain, kidney, liver, spleen, colon, trachea, spinal cord and the capillary endothelium of a variety of tumors. Expressed specifically in jejunum brush border membranes. In the brain, highly expressed in the ventral striatum and brain stem. Also expressed in fetal liver and kidney. Isoform PSMA' is the most abundant form in normal prostate. Isoform PSMA-1 is the most abundant form in primary prostate tumors. Isoform PSMA-2 is also found in normal prostate as well as in brain and liver. Isoform PSMA-9 is specifically expressed in prostate cancer.

Sequence similarities

Belongs to the peptidase M28 family. M28B subfamily.

Domain

The NAALADase activity is found in the central region, the dipeptidyl peptidase IV type activity in the C-terminal.

Post-translational modifications

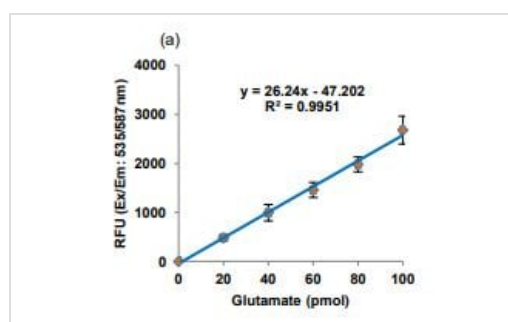
The first two amino acids at the N-terminus of isoform PSMA' appear to be cleaved by limited proteolysis.

The N-terminus is blocked.

Cellular localization

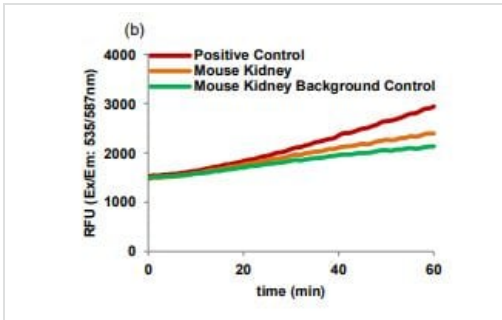
Cytoplasm and Cell membrane.

Images



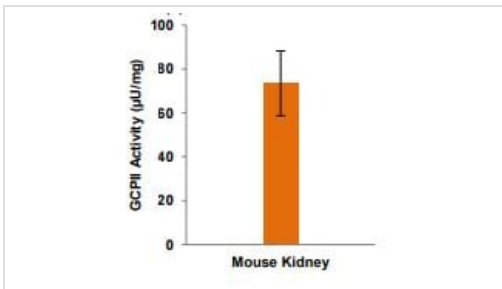
Glutamate standard curve, results from multiple experiments

PicoProbe™ Glutamate Carboxypeptidase II Activity Assay Kit



Purified glutamate carboxypeptidase II activity and GCPII activity in mouse kidney.

PicoProbe™ Glutamate Carboxypeptidase II Activity Assay Kit



Measurement of GCPII activity in mouse kidney extracts (6 µg protein). All assays were performed following kit protocol.

PicoProbe™ Glutamate Carboxypeptidase II Activity Assay Kit

Please note: All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

Our Abpromise to you: Quality guaranteed and expert technical support

- Replacement or refund for products not performing as stated on the datasheet
- Valid for 12 months from date of delivery
- Response to your inquiry within 24 hours
- We provide support in Chinese, English, French, German, Japanese and Spanish
- Extensive multi-media technical resources to help you
- We investigate all quality concerns to ensure our products perform to the highest standards

If the product does not perform as described on this datasheet, we will offer a refund or replacement. For full details of the Abpromise, please visit <https://www.abcam.com/abpromise> or contact our technical team.

Terms and conditions

- Guarantee only valid for products bought direct from Abcam or one of our authorized distributors