

TECHNICAL DATA SHEET

CyFlow™ GCPII Purified Anti-Hu; Clone GCP-05

REF AX752197

For Research Use Only.
Not for use in diagnostic or therapeutic procedures.

Specifications

Antigen	GCPII
Alternative Names	PSMA
Clone	GCP-05
Clonality	monoclonal
Format	Purified
Host / Isotype	Mouse / IgG1
Species Reactivity	Human
Negative Species Reactivity	—
Quantity [Concentration]	0.1 mg [1 mg/ml]
Immunogen	Amino acids 44-750 of human GCPII

Specificity

The mouse monoclonal antibody GCP-05 recognizes extracellular domain (preferentially in native form) of GCPII (PSMA), a 95-110 kDa transmembrane glycoprotein expressed mainly in tumor neovasculatures, nervous system and jejunum, which is an important prostate tumour marker.

Contact Information:

Sysmex Partec GmbH • Am Flugplatz 13 • 02828 Görlitz • Germany
Tel +49 3581 8746 0 • Fax +49 3581 8746 70 • E-mail: info@sysmex-partec.com

Application

Based on published sources, this antibody is suitable for the following applications:

- Flow cytometry
- Immunoprecipitation
- Immunocytochemistry

Storage Buffer

The reagent is provided in phosphate buffered saline (PBS) solution, pH $\approx$ 7.4, containing 0.1% (w/v) sodium azide.

Storage and Stability

Storage	Avoid prolonged exposure to light. Store in the dark at 2-8°C. Do not freeze.
Stability	Do not use after expiration date stamped on vial label.

Background Information

Glutamate carboxypeptidase II (GCPII), also known as N-acetyl- α -linked acidic dipeptidase I (NAALADase I), folate hydrolase (FOLH1) and prostate-specific membrane antigen (PSMA), is an approximately 95-110 kDa type II transmembrane glycoprotein expressed in various tissues. In nervous system GCPII cleaves abundant N-acetylaspartylglutamate, which is released from neurons in a calcium-dependent manner, to N-acetylaspartate and glutamate. As immoderate glutamate concentration is neurotoxic, GCPII contributes to pathological conditions regarding e.g. Alzheimer's disease, Huntington's disease, epilepsy, schizophrenia, stroke or neuropathic pain and appears to be an interesting therapeutic target. In jejunum GCPII hydrolyzes pteroylpoly- γ -glutamate to folate and glutamate, enabling folate to be absorbed by gastrointestinal tract. GCPII, which is present in a number of tissues at low levels, is overexpressed in neovasculature of most solid tumors and is a target enzyme for diagnosis and treatment of prostate cancer. Normal human prostate express more mRNA coding for a cytosolic GCPII form truncated at the N-terminus (PSM') than mRNA for membrane-bound GCPII, and this ratio is reversed upon malignant transformation.

References

- Barinka C, Rinnova M, Sacha P, Rojas C, Majer P, Slusher BS, Konvalinka J: Substrate specificity, inhibition and enzymological analysis of recombinant human glutamate carboxypeptidase II. J Neurochem. 2002; 80:477-487. < PMID: 11905994 >

Contact Information:

Sysmex Partec GmbH • Am Flugplatz 13 • 02828 Görlitz • Germany
Tel +49 3581 8746 0 • Fax +49 3581 8746 70 • E-mail: info@sysmex-partec.com

- Ghadge GD, Slusher BS, Bodner A, Canto MD, Wozniak K, Thomas AG, Rojas C, Tsukamoto T, Majer P, Miller RJ, Monti AL, Roos RP: Glutamate carboxypeptidase II inhibition protects motor neurons from death in familial amyotrophic lateral sclerosis models. Proc Natl Acad Sci USA. 2003 Aug 5; 100(16):9554-9. < PMID: 12876198 >
- Barinka C, Mlcochova P, Sacha P, Hilgert I, Majer P, Slusher BS, Horejsi V, Konvalinka J: Amino acids at the N- and C-termini of human glutamate carboxypeptidase II are required for enzymatic activity and proper folding. Eur J Biochem. 2004; 271:2782-2790. < PMID: 15206943 >
- Barinka C, Sacha P, Sklenar J, Man P, Bezouska K, Slusher BS, Konvalinka J: Identification of the N-glycosylation sites on glutamate carboxypeptidase II necessary for proteolytic activity. Protein Sci. 2004; 13:1627-1635. < PMID: 15152093 >
- Davis MI, Bennett MJ, Thomas LM, Bjorkman PJ: Crystal structure of prostate-specific membrane antigen, a tumor marker and peptidase. Proc Natl Acad Sci USA. 2005; 102:5981-5986. < PMID: 15837926 >
- Mesters JR, Barinka C, Li W, Tsukamoto T, Majer P, Slusher BS, Konvalinka J, Hilgenfeld R: Structure of glutamate carboxypeptidase II, a drug target in neuronal damage and prostate cancer. EMBO J. 2006; 1375-1384. < PMID: 16467855 >
- Sacha P, Zamecnik J, Barinka C, Hlouchova K, Vicha A, Mlcochova P, Hilgert I, Eckschlager T, Konvalinka J: Expression of glutamate carboxypeptidase II in human brain. Neuroscience. 2007; 144:1361-1372. < PMID: 17150306 >
- Tykvart J, Navrátil V, Sedlák F, Corey E, Colombatti M, Fracasso G, Koukolík F, Bařinka C, Sáčha P, Konvalinka J: Comparative analysis of monoclonal antibodies against prostate-specific membrane antigen (PSMA). Prostate. 2014 Sep 27; < PMID: 26629066 >

The Safety Data Sheet for this product is available at www.sysmex-partec.com/services.

Contact Information:

Sysmex Partec GmbH • Am Flugplatz 13 • 02828 Görlitz • Germany
Tel +49 3581 8746 0 • Fax +49 3581 8746 70 • E-mail: info@sysmex-partec.com