Hello Bio, Inc.
304 Wall St., Princeton, NJ 08540 USA

T. 609-683-7500
F. 609-228-4994

customercare-usa@hellobio.com

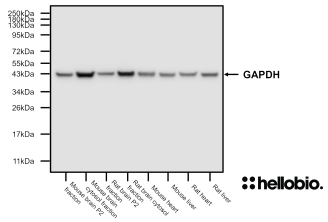
DATASHEET

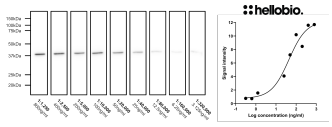
Anti-GAPDH antibody ValidAb™

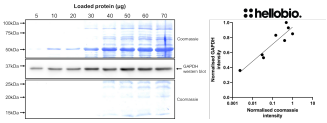
Product overview

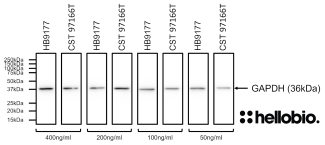
Name	Anti-GAPDH antibody ValidAb™
Cat No	HB9177
Host	Mouse
Clonality	Monoclonal
Target	GAPDH
Description	Antibody to GAPDH - universal loading control for western blotting. Part of the ValidAb™ range of highly validated, data-rich antibodies.

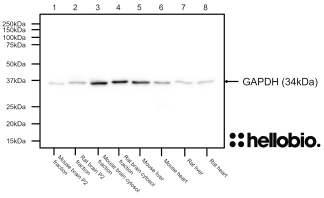
Validation data

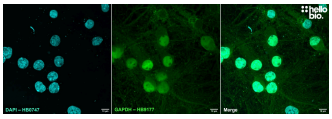


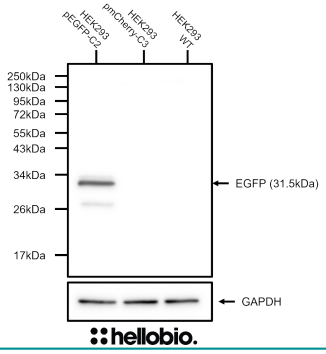


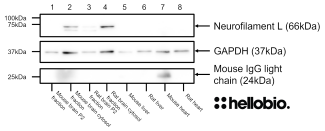












Product information

Immunogen	Purified rabbit GAPDH
Clone number	6C5cc
Isotype	IgG1
Purification	Protein A affinity chromatography
Concentration	1mg/ml
Formulation	Lyophilised. When reconstituted contains PBS with 0.09% sodium azide and 1% recombinant albumin
Predicted species reactivity	Mouse, Rat, Human, Pig, Dog, Rabbit, Cat, Fish
Tested species reactivity	Mouse, Rat, Human

Tested applications

Applications	ELISA, ICC, WB
Western blot optimal concentration	0.25µg/ml (1:4,000) as measured in rat brain cytosol preparation

ICC optimal concentration	2µg/ml (1:500) as measured in cultured rat neurones
Positive control	GAPDH is ubiquitously expressed at high levels in nearly all mammalian tissues and cells. It is also widely expressed in common cell lines.
Negative control	GAPDH is a cytosolic enzyme, so complete subcellular fractionation should be sufficient to provide a negative control. Due to its high expression, care should be taken to ensure that fractionation is complete without any cytosolic contamination.
Open data link	Please follow this link to OSF

Target information

Other names	Glyceraldehyde-3-phosphate dehydrogenase, GAPD, G3PD, HEL-S-162eP
UniProt ID	P04406
Gene name	GAPDH
NCBI full gene name	glyceraldehyde-3-phosphate dehydrogenase
Entrez gene ID	2597
Amino acids	335 (36.1kDa)
Isoforms	GFAP has two isoforms. Isoform 1 : 335 amino acids, 36.05kDa; Isoform 2: 293 amino acids (missing residues 1-42), 31.55kDa
Expression	GAPDH is expressed ubiquitously in all tissues and cell types.
Subcellular expression	Expression is primarily in the cytosol although there has been nuclear expression reported during high levels of cellular stress. In red blood cells GAPDH assembles on the cell membrane as part of larger multi-protein complexes.
Target function	GAPDH catalyses the sixth step of glycolysis therefore is essential to cellular ATP production. Other roles for GAPDH have also been revealed including transcriptional regulation of some genes and involvement in the initiation of apoptosis.
Processing	Following translation the leading methionine is removed to form the mature protein.
Post translational modifications	GAPDH is subject to numerous post-translational modifications including phosphorylation, deamination, acetylation, methylation and nitrosylation on multiple residues.
Homology (compared to human)	Mouse and rat show 100% homology to each other in a direct BLAST comparison while showing 99% homology to human GAPDH due humans posessing the insertion of GK at position 2.
Similar proteins	None

Storage & Handling

Storage instructions	-20°C then use reconstitution advice
Reconstitution advice	Upon receipt store at either -20°C or -80°C. For 100µg packs either: • Reconstitute with 100µl dH_2O and store at 4°C • Reconstitute with 50µl dH_2O and 50µl glycerol then store at -20°C • Reconstitute with 100µl dH_2O, aliquot then snap freeze and store at -80°C For 25µg packs either: • Reconstitute with 25µl dH_2O and store at 4°C • Reconstitute with 12.5µl dH_2O and 12.5µl glycerol then store at -20°C • Reconstitute with 25µl dH_2O, aliquot then snap freeze and store at -80°C For more information read our guide on the best care for your product. Take care when opening as the precipitate is extremely light and can easily be lost if disturbed. When reconstituting make sure that the antibody is thoroughly dissolved by pipetting up and down before giving the antibody a brief spin at 10,000g to make sure that all material is recovered and at the bottom of the tube.
Shipping Conditions	Stable for ambient temperature shipping. Follow storage instructions on receipt.
Important	This product is for RESEARCH USE ONLY and is not intended for therapeutic or diagnostic use. Not for human or veterinary use

References

Glyceraldehyde-3-phosphate dehydrogenase: a universal internal control for Western blots in prokaryotic and eukaryotic cells

Wu Y et al (2012) Analytical Biochemistry 423(1)
PubMedID 22326796

An appropriate loading control for western blot analysis in animal models of myocardial ischemic infarction

Nie X et al (2017) Biochem Biophys Rep 12
PubMedID 28955798

The diverse functions of GAPDH: views from different subcellular compartments

Tristan C et al (2010) Cell Signal 23(2)
PubMedID 20727968

S-nitrosylated GAPDH initiates apoptotic cell death by nuclear translocation following Siah1 binding

Hara M et al (2005) Nature Cell Biology 665-674
PubMedID 15951807