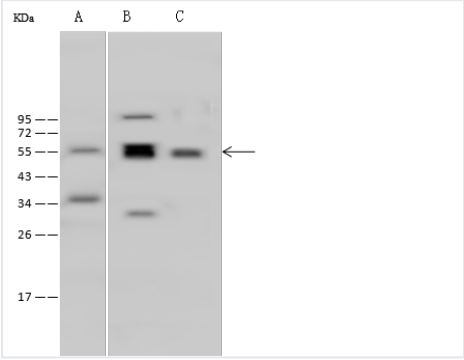
PHGDH Antibody – Rabbit Polyclonal

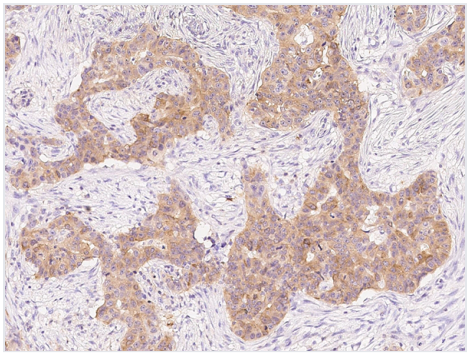
PRODUCT OVERVIEW

Product Name	PHGDH, Polyclonal Antibody
Full Product Name	Anti-PHGDH Antibody, Rabbit Polyclonal
Product Gene Name	anti-PHGDH antibody
Product Synonym Names	PHGDH Antibody, Rabbit PAb, Antigen Affinity Purified; phosphoglycerate dehydrogenase; Anti-3-PGDH Antibody; Anti-3PGDH Antibody; Anti-HEL-S-113 Antibody; Anti-NLS Antibody; Anti-NLS1 Antibody; Anti-PDG Antibody; Anti-PGAD Antibody; Anti-PGD Antibody; Anti-PGDH Antibody; Anti-PHGDHD Antibody; Anti-SERA Antibody
Clonality	Polyclonal
Isotype	Rabbit IgG
Host	Rabbit
Species Reactivity	Human Predicted to React with: Pongo abelii, Pig, Macfa (Species predicted to react based on 100% sequence homology)
Form/Format	Liquid; 0.2um filtered solution in PBS
Purity/Purification	Protein A & Antigen Affinity
Specificity	Human PHGDH
Preparation and Storage	This antibody can be stored at 2-8 degree C for one month without detectable loss of activity. Antibody products are stable for twelve months from date of receipt when stored at -20 degree C to -80 degree C. Preservative-Free. Avoid repeated freeze-thaw cycles.
Molecular Weight	533
OMIM	phenotype 606879
3D Structure	ModBase 3D Structure for O43175
Immunogen	A synthetic peptide corresponding to the center region of the Human PHGDH
Conjugation	Unconjugated
Preparation	Produced in rabbits immunized with a synthetic peptide corresponding to the center region of the Human PHGDH, and purified by antigen affinity chromatography.
Applications Tested/Suitable for anti-PHGDH antibody	Western Blot (WB), Immunohistochemistry-Paraffin (IHC-P), Immunocytochemistry (ICC), Immunofluorescence (IF), Immunoprecipitation (IP)
Application Notes for anti-PHGDH antibody	WB: 1:500-1:2000 IHC-P: 1:500-1:2000 ICC/IF: 1:300-1:10,000 IP: 5-10uL/mg of lysate
Related Product Information for anti-PHGDH antibody	PHGDH is a member of the D-isomer specific 2-hydroxyacid dehydrogenase family. This new family consists of D-isomer-stereospecific enzymes. The conserved residues in this family appear to be the residues involved in the substrate binding and the catalytic reaction, and thus to be targets for site-directed mutagenesis. A number of NAD-dependent 2-hydroxyacid dehydrogenases which seem to be specific for the D-isomer of their substrate have been shown to be functionally and structurally related. PHGDH catalyzes the transition of 3-phosphoglycerate into 3-phosphohydroxypyruvate, which is the first and rate-limiting step in the phosphorylated pathway of serine biosynthesis, using NAD+ /NADH as a cofactor. Overexpression of PHGDH may cause certain breast cancers. Defects in PHGDH are the cause of phosphoglycerate dehydrogenase deficiency which is characterized by congenital microcephaly, psychomotor retardation, and seizures.

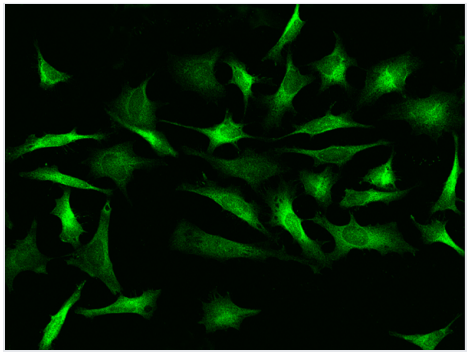
Product References and Citations for anti-PHGDH antibody	Pind S, et al. (2002) V490M, a common mutation in 3-phosphoglycerate dehydrogenase deficiency, causes enzyme deficiency by decreasing the yield of mature enzyme. J Biol Chem. 277 (9): 7136-43.Du H, et al. (2010) 3-Phosphoglycerate dehydrogenase expression is regulated by HOXA10 in murine endometrium and human endometrial cells. Reproduction. 139 (1): 237-45.Possemato R, et al. (2011) Functional genomics reveal that the serine synthesis pathway is essential in breast cancer. Nature. 476 (7360): 346-50.
Other Notes	Small volumes of anti-PHGDH antibody vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.
Searchable Terms for PHGDH purchase	MBS8103703 is an antibody targeting PHGDH. Also known as Anti-PHGDH Antibody, Rabbit Polyclonal. Reactive in Human Predicted to React with: Pongo abelii, Pig, Macfa (Species predicted to react based on 100% sequence homology). Host: Rabbit.



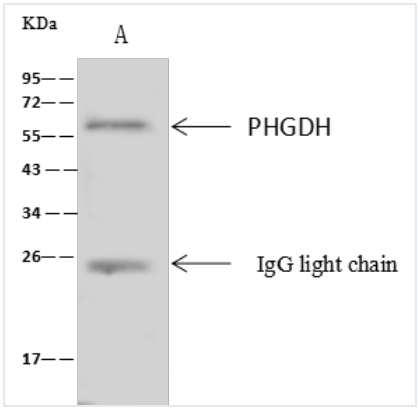
Western Blot (WB) of anti-PHGDH antibody
Anti-PHGDH rabbit polyclonal antibody at 1:500 dilution Lane A: A431 Whole Cell Lysate Lane B: HeLa Whole Cell Lysate Lane C: Jurkat Whole Cell Lysate Lysates/proteins at 30 ug per lane. Secondary Goat Anti-Rabbit IgG (H+L)/HRP at 1/10000 dilution. Developed using the ECL technique. Performed under reducing conditions. Predicted band size:57 kDa Observed band size:57 kDa



Immunohistochemistry (IHC) of anti-PHGDH antibody
Immunochemical staining of human PHGDH in human breast carcinoma with rabbit polyclonal antibody at 1:1000 dilution, formalin-fixed paraffin embedded sections.



Immunofluorescence (IF) of anti-PHGDH antibody
Immunofluorescence staining of PHGDH in HeLa cells. Cells were fixed with 4% PFA, permeabilzed with 0.1% Triton X-100 in PBS,blocked with 10% serum, and incubated with rabbit anti-human PHGDH polyclonal antibody (dilution ratio 1:1000) at 4 degree C overnight. Then cells were stained with the Alexa Fluor$488-conjugated Goat Anti-rabbit IgG secondary antibody (green). Positive staining was localized to cytoplasm.



Immunoprecipitation (IP) of anti-PHGDH antibody
PHGDH was immunoprecipitated using: Lane A:0.5 mg HeLa Whole Cell Lysate 4 uL anti-PHGDH rabbit polyclonal antibody and 60 ug of Immunomagnetic beads Protein A/G. Primary antibody: Anti-PHGDH rabbit polyclonal antibody,at 1:100 dilution Secondary antibody: Clean-Blot IP Detection Reagent (HRP) at 1:1000dilution Developed using the ECL technique. Performed under reducing conditions. Predicted band size: 57 kDa Observed band size :57 kDa

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for PHGDH. It may not necessarily be applicable to this product.

NCBI GI #	21264510
NCBI GeneID	26227
NCBI Accession #	O43175.4

UniProt Primary Accession #	O43175
UniProt Secondary Accession #	Q5SZU3; Q9BQ01; B2RD08
UniProt Related Accession #	O43175
NCBI Official Full Name	D-3-phosphoglycerate dehydrogenase
NCBI Official Synonym Full Names	phosphoglycerate dehydrogenase
NCBI Official Symbol	PHGDH
NCBI Official Synonym Symbols	NLS; PDG; PGD; NLS1; PGAD; PGDH; SERA; 3PGDH; 3-PGDH; PHGDHD; HEL-S-113
UniProt Protein Name	D-3-phosphoglycerate dehydrogenase
UniProt Gene Name	PHGDH
UniProt Synonym Gene Names	PGDH3; 3-PGDH
UniProt Entry Name	SERA_HUMAN
NCBI Protein Information	D-3-phosphoglycerate dehydrogenase; epididymis secretory protein Li 113
NCBI Summary for PHGDH	This gene encodes the enzyme which is involved in the early steps of L-serine synthesis in animal cells. L-serine is required for D-serine and other amino acid synthesis. The enzyme requires NAD/NADH as a cofactor and forms homotetramers for activity. Mutations in this gene have been found in a family with congenital microcephaly, psychomotor retardation and other symptoms. Multiple alternatively spliced transcript variants have been found, however the full-length nature of most are not known. [provided by RefSeq, Aug 2011]
UniProt Comments for PHGDH	PHGDH: Defects in PHGDH are the cause of phosphoglycerate dehydrogenase deficiency (PHGDH deficiency). It is characterized by congenital microcephaly, psychomotor retardation, and seizures. Belongs to the D-isomer specific 2-hydroxyacid dehydrogenase family. Protein type: Oxidoreductase; Amino Acid Metabolism - glycine, serine and threonine; EC 1.1.1.95; Cell development/differentiation Chromosomal Location of Human Ortholog: 1p12 Cellular Component: cytosol Molecular Function: electron carrier activity; NAD binding; phosphoglycerate dehydrogenase activity Biological Process: neural tube development; glial cell development; glycine metabolic process; gamma-aminobutyric acid metabolic process; glutamine metabolic process; L-serine biosynthetic process; spinal cord development; regulation of gene expression; amino acid biosynthetic process; brain development; taurine metabolic process; neurite development; threonine metabolic process Disease: Phosphoglycerate Dehydrogenase Deficiency; Neu-laxova Syndrome 1
Research Articles on PHGDH	**1.** Phosphoglycerate Dehydrogenase deficiency is associated with Neu-Laxova syndrome.
Precautions	All of MyBioSource's Products are for scientific laboratory research purposes and are not for diagnostic, therapeutics, prophylactic or in vivo use. Through your purchase, you expressly represent and warrant to MyBioSource that you will properly test and use any Products purchased from MyBioSource in accordance with industry standards. MyBioSource and its authorized distributors reserve the right to refuse to process any order where we reasonably believe that the intended use will fall outside of our acceptable guidelines.
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