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Anti-GPI Picoband Antibody

Catalog # ABO11686

Product Information

Application	WB
Primary Accession	P06744
Host	Rabbit
Reactivity	Human
Clonality	Polyclonal
Format	Lyophilized
Description	Rabbit IgG polyclonal antibody for Glucose-6-phosphate isomerase(GPI) detection. Tested with WB in Human.
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Additional Information

Gene ID	2821
Other Names	Glucose-6-phosphate isomerase, GPI, 5.3.1.9, Autocrine motility factor, AMF, Neuroleukin, NLK, Phosphoglucose isomerase, PGI, Phosphohexose isomerase, PHI, Sperm antigen 36, SA-36, GPI
Calculated MW	63147
Application Details	Western blot, 0.1-0.5 □g/ml, Human
Subcellular Localization	Cytoplasm . Secreted .
Source	Eukaryota
Protein Name	Glucose-6-phosphate isomerase
Contents	Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg NaN3.
Immunogen	A synthetic peptide corresponding to a sequence at the N-terminus of human GPI (5-39aa TRDPQFQKLQQWYREHRSELNLRRLFDANKDRFNH), different from the related mouse and rat sequences by sixteen amino acids.
Purification	Immunogen affinity purified.
Cross Reactivity	No cross reactivity with other proteins.
Storage	At -20˚C for one year. After r˚Constitution, at 4˚C for one month. It˚Can also be aliquotted and stored frozen at -20˚C for a longer time.Avoid repeated freezing and thawing.

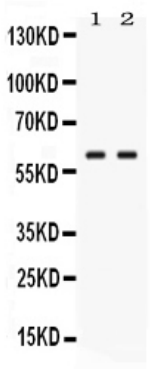
Protein Information

Name	GPI {ECO:0000303|PubMed:2387591, ECO:0000312|HGNC:HGNC:4458}
Function	Isomerase that catalyzes the conversion of alpha-D-glucose-6- phosphate to beta-D-fructose-6-phosphate, the second step in glycolysis, and the reverse reaction in gluconeogenesis, within the cytoplasm (PubMed:28803808). Also shows C2-epimerase activity, interconverting D-glucose-6-phosphate (G6P) and D-mannose-6-phosphate (M6P) (By similarity). Also displays anomerase activity, interconverting alpha and beta-anomeric forms of G6P, D-fructose-6-phosphate and M6P (By similarity). In addition to its metabolic role, this enzyme functions extracellularly as a cytokine: acts as autocrine motility factor (AMF), a secreted angiogenic factor that enhances endothelial cell motility (PubMed:11437381). Functions as neuroleukin, a neurotrophic factor supporting the survival of spinal and sensory neurons (PubMed:11004567, PubMed:3352745). Released by lectin- stimulated T-cells to induce immunoglobulin secretion (PubMed:11004567, PubMed:3352745).
Cellular Location	Cytoplasm. Secreted

Background

Glucose-6-phosphate isomerase (GPI), alternatively known as phosphoglucose isomerase (PGI) or phosphohexose isomerase(PHI), is an enzyme that in humans is encoded by the GPI gene on chromosome 19. This gene encodes a member of the glucose phosphate isomerase protein family. The encoded protein has been identified as a moonlighting protein based on its ability to perform mechanistically distinct functions. In the cytoplasm, the gene product functions as a glycolytic enzyme (glucose-6-phosphate isomerase) that interconverts glucose-6-phophsate and fructose-6-phosphate. Extracellularly, the encoded protein (also referred to as neuroleukin) functions as a neurotrophic factor that promotes survival of skeletal motor neurons and sensory neurons, and as a lymphokine that induces immunoglobulin secretion. The encoded protein is also referred to as autocrine motility factor based on an additional function as a tumor-secreted cytokine and angiogenic factor. Defects in this gene are the cause of nonspherocytic hemolytic anemia and a severe enzyme deficiency can be associated with hydrops fetalis, immediate neonatal death and neurological impairment. Alternative splicing results in multiple transcript variants.

Images



Western blot analysis of GPI expression in human placenta extract (lane 1) and JURKAT whole cell lysates (lane 2). GPI at 63KD was detected using rabbit anti- GPI Antigen Affinity purified polyclonal antibody (Catalog # ABO11686) at 0.5 ??g/mL. The blot was developed using chemiluminescence (ECL) method .

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