Anti-GPI: Mouse Glucose-6-Phosphate Isomerase Antibody

Product Sheet CP10116

Description

BACKGROUND Phosphohexose Isomerase (PHI; D-glucose-6-phosphate ketol-isomerase; EC 5.3.1.9) is also known as Glucosephosphate Isomerase (GPI) and phosphoglucose isomerase (PGI). It is a housekeeping cytosolic enzyme of sugar metabolism that plays a key role in both glycolysis and gluconeogenesis pathways, catalyzing the interconversion of glucose 6-phosphate and fructose 6-phosphate, the second step of the Embden-Meyerhof glycolytic pathway. And this enzyme is universally distributed among Eukaryotes, bacteria, and some Archaea. There is evidence that phosphoglucose isomerase behaves extracellularly as a cytokine. It is produced and secreted by white blood cells, and acts to regulate the growth of several different cell types.[1] Molecular cloning and sequencing have identified PGI as an autocrine motility factor (AMF) found to be a major cell motility–stimulating factor associated with cancer development and progression.[2] Of note, aberrations in PGI expressions or activities due to mutations or deletions in PGI are of significant clinical importance because mutations in PGI lead to hereditary nonspherocytic hemolytic anemia disease.[3] In clinical cancer pathology, the presence of PGI/AMF in the serum and urine is of prognostic value indicating cancer progression. The levels of PGI/AMF and its cell surface receptor gp78/AMFR expressions are associated with the pathologic stage, grade, and degree of tumor penetration to surrounding tissues marking a poor prognosis.[4]

REFERENCES

1. Kim, J.W. & Dang, C.V.: Trends Biochem. Sci. 30:142–502, 2005
2. Niinaka, Y. et al.: Cancer Res 58:2667–74, 1998
3. Kanno, H. et al.: Blood 88:2321-2325, 1996
4. Gomm, S. A. et al.: Br. J. Cancer 58:797–804, 1988

[1]
(Click to Enlarge) **Top:** Western Blot detection of Glucose-6-phosphate isomerase proteins in various normal primary cell lysates using Glucose-6-phosphate Isomerase (GPI) Antibody. **Bottom:** This antibody stains L-02 cells in confocal immunofluorescent analysis (GPI Antibody: Green; Actin filament: Red; and DRAQ5 DNA dye: Blue).

Details

Cat.No.:	CP10116
Antigen:	Purified recombinant human GPI fragment expressed in *E. coli*.
Isotype:	Mouse IgG
Species & predicted species cross-reactivity ( ):	Human, Mouse, Rat
Applications & Suggested starting dilutions:*	WB 1:1000 IP n/d IHC n/d ICC 1:200 FACS n/d
Predicted Molecular Weight of protein:	63 kDa
Specificity/Sensitivity:	Detects endogenous Glucose-6-Phosphate Isomerase proteins without cross-reactivity with other family members.
Storage:	Store at -20°C, 4°C for frequent use. Avoid repeated freeze-thaw cycles.

*Optimal working dilutions must be determined by end user.

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