

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. 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 JW & Dang CV: 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 SA et al.: Br. J. Cancer 58:797-804, 1988.

TECHNICAL INFORMATION

Source:

Phosphohexose isomerase Antibody is a mouse monoclonal antibody raised against *E. coli*-expressed recombinant proteins containing phosphohexose isomerase fragments.

Specificity and Sensitivity:

This monoclonal antibody detects endogenous levels of phosphohexose isomerase proteins in various cell lysates.

Storage Buffer: PBS and 30% glycerol

Storage:

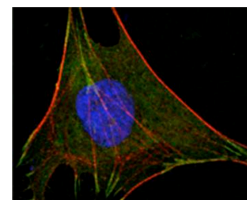
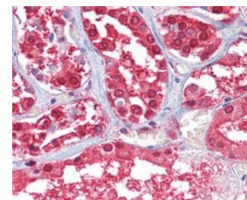
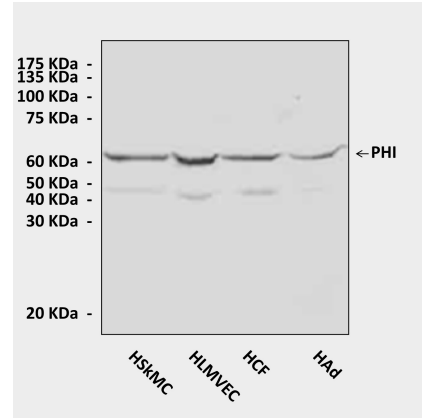
Store at -20°C for at least one year. Store at 4°C for frequent use. Avoid repeated freeze-thaw cycles.

APPLICATIONS

Application:	*Dilution:
WB	1:1000
IP	1:50
IHC	1:50 - 200
ICC	1:50 - 200
FACS	n/d

*Optimal dilutions must be determined by end user.

QUALITY CONTROL DATA



Top: Various primary cell lysates were subjected to Western Blot analysis using Phosphohexose Isomerase antibody. **Middle:** Immunohistochemical analysis of paraffin-embedded human Kidney tissues using PHI Antibody. **Bottom:** Immunofluorescence analysis of L-02 cells using PHI Antibody (PHI Antibody: green; Actin filaments: red; DRAQ5: blue).

