

Anti-Triosephosphate isomerase Antibody [PSH14-38]

HA723632



Product Type:	Recombinant Rabbit monoclonal IgG, primary antibodies
Species reactivity:	Human, Mouse, Rat, Monkey
Applications:	WB, IHC-P, IF-Cell, FC
Molecular Wt:	Predicted band size: 27 kDa
Clone number:	PSH14-38

Description:	Triose-phosphate isomerase (TPI or TIM) is an enzyme (EC 5.3.1.1) that catalyzes the reversible interconversion of the triose phosphate isomers dihydroxyacetone phosphate and D-glyceraldehyde 3-phosphate. Compound C00111 at KEGG Pathway Database. Enzyme 5.3.1.1 at KEGG Pathway Database. Compound C00118 at KEGG Pathway Database. TPI plays an important role in glycolysis and is essential for efficient energy production. TPI has been found in nearly every organism searched for the enzyme, including animals such as mammals and insects as well as in fungi, plants, and bacteria. However, some bacteria that do not perform glycolysis, like ureaplasmas, lack TPI. In humans, deficiencies in TPI are associated with a progressive, severe neurological disorder called triose phosphate isomerase deficiency. Triose phosphate isomerase deficiency is characterized by chronic hemolytic anemia. While there are various mutations that cause this disease, most include the mutation of glutamic acid at position 104 to aspartic acid. Triose phosphate isomerase is a highly efficient enzyme, performing the reaction billions of times faster than it would occur naturally in solution. The reaction is so efficient that it is said to be catalytically perfect. It is limited only by the rate the substrate can diffuse into and out of the enzyme's active site.
Immunogen:	Recombinant protein within human Triosephosphate isomerase aa 1-249.
Positive control:	A431 cell lysate, A549 cell lysate, Caco-2 cell lysate, NIH/3T3 cell lysate, C6 cell lysate, COS-1 cell lysate, Mouse placenta tissue lysate, human colon tissue, human liver tissue, human placenta tissue, mouse colon tissue, mouse liver tissue, mouse placenta tissue, rat colon tissue, rat liver tissue, rat placenta tissue, A431, NIH/3T3, C6.
Subcellular location:	Cytoplasm, nucleus.
Database links:	SwissProt: P60174 Human P17751 Mouse P48500 Rat
Recommended Dilutions:	
WB	1:5,000
IHC-P	1:1,000
IF-Cell	1:100
FC	1:1,000
Storage Buffer:	1*PBS (pH7.4), 0.1% BSA, 40% Glycerol, 0.2% Proclean 950.
Storage Instruction:	Shipped at 4°C. Store at +4°C short term (1-2 weeks). It is recommended to aliquot into single-use upon delivery. Store at -20°C long term.
Purity:	Protein A affinity purified.

Hangzhou Huaan Biotechnology Co., Ltd.

Orders:0086-571-88062880

Technical:0086-571-89986345

Service mail:support@huabio.cn

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Images

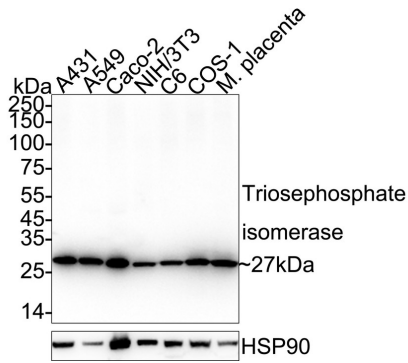


Fig1: Western blot analysis of Triosephosphate isomerase on different lysates with Rabbit anti-Triosephosphate isomerase antibody (HA723632) at 1/5,000 dilution.

Lane 1: A431 cell lysate (20 µg/Lane)
 Lane 2: A549 cell lysate (20 µg/Lane)
 Lane 3: Caco-2 cell lysate (20 µg/Lane)
 Lane 4: NIH/3T3 cell lysate (20 µg/Lane)
 Lane 5: C6 cell lysate (20 µg/Lane)
 Lane 6: COS-1 cell lysate (20 µg/Lane)
 Lane 7: Mouse placenta tissue lysate (30 µg/Lane)

Predicted band size: 27 kDa
 Observed band size: 27 kDa

Exposure time: 6 seconds; ECL: K1801;

4-20% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (HA723632) at 1/5,000 dilution was used in primary antibody dilution (K1803) at 4°C overnight. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1/50,000 dilution was used for 1 hour at room temperature.

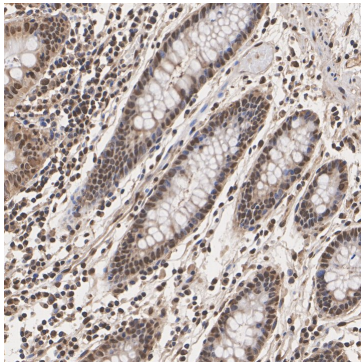


Fig2: Immunohistochemical analysis of paraffin-embedded human colon tissue with Rabbit anti-Triosephosphate isomerase antibody (HA723632) at 1/1,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH₂O and PBS, and then probed with the primary antibody (HA723632) at 1/1,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

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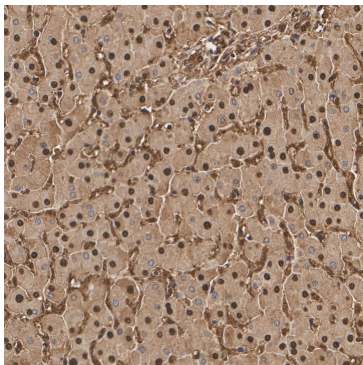


Fig3: Immunohistochemical analysis of paraffin-embedded human liver tissue with Rabbit anti-Triosephosphate isomerase antibody (HA723632) at 1/1,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH₂O and PBS, and then probed with the primary antibody (HA723632) at 1/1,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

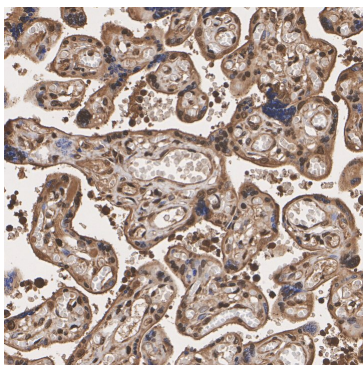


Fig4: Immunohistochemical analysis of paraffin-embedded human placenta tissue with Rabbit anti-Triosephosphate isomerase antibody (HA723632) at 1/1,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH₂O and PBS, and then probed with the primary antibody (HA723632) at 1/1,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

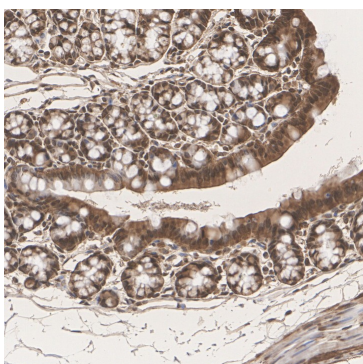


Fig5: Immunohistochemical analysis of paraffin-embedded mouse colon tissue with Rabbit anti-Triosephosphate isomerase antibody (HA723632) at 1/1,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH₂O and PBS, and then probed with the primary antibody (HA723632) at 1/1,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

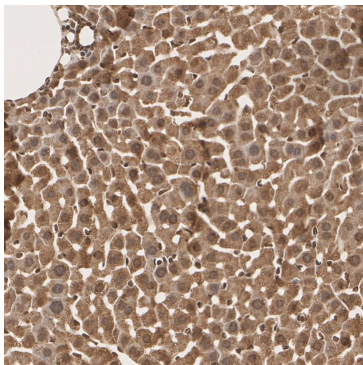


Fig6: Immunohistochemical analysis of paraffin-embedded mouse liver tissue with Rabbit anti-Triosephosphate isomerase antibody (HA723632) at 1/1,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH₂O and PBS, and then probed with the primary antibody (HA723632) at 1/1,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

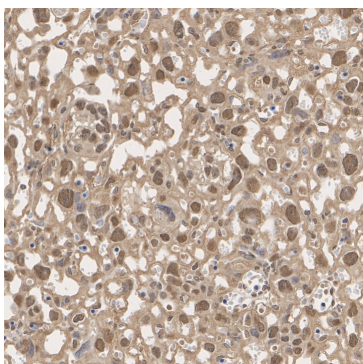


Fig7: Immunohistochemical analysis of paraffin-embedded mouse placenta tissue with Rabbit anti-Triosephosphate isomerase antibody (HA723632) at 1/1,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH₂O and PBS, and then probed with the primary antibody (HA723632) at 1/1,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

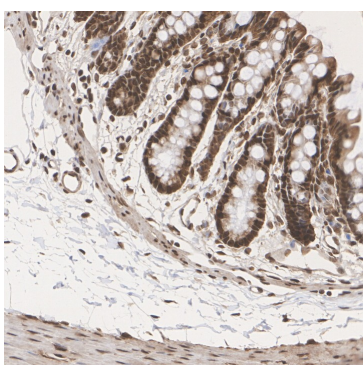


Fig8: Immunohistochemical analysis of paraffin-embedded rat colon tissue with Rabbit anti-Triosephosphate isomerase antibody (HA723632) at 1/1,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH₂O and PBS, and then probed with the primary antibody (HA723632) at 1/1,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

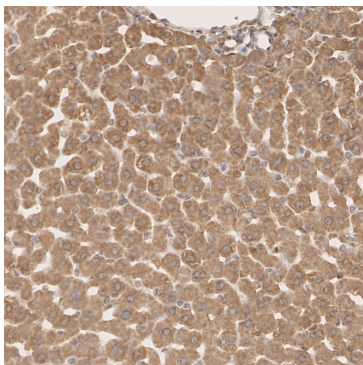


Fig9: Immunohistochemical analysis of paraffin-embedded rat liver tissue with Rabbit anti-Triosephosphate isomerase antibody (HA723632) at 1/1,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH₂O and PBS, and then probed with the primary antibody (HA723632) at 1/1,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

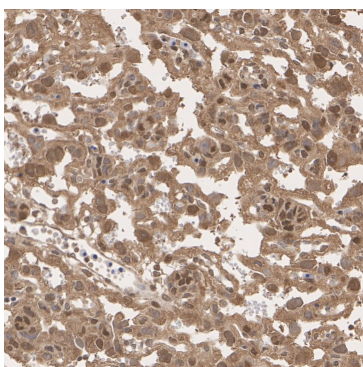
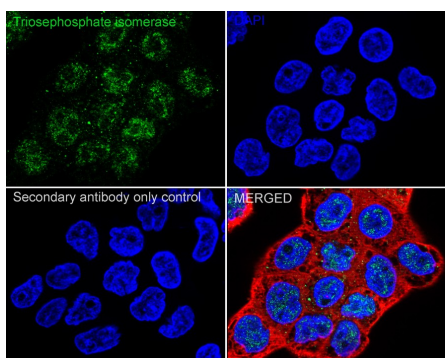


Fig10: Immunohistochemical analysis of paraffin-embedded rat placenta tissue with Rabbit anti-Triosephosphate isomerase antibody (HA723632) at 1/1,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH₂O and PBS, and then probed with the primary antibody (HA723632) at 1/1,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

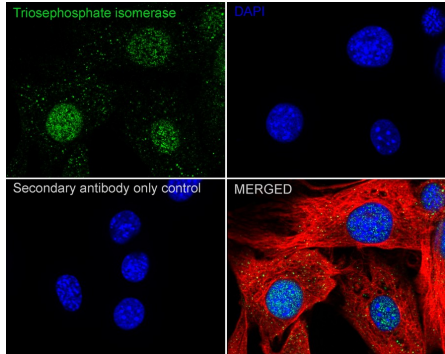
Fig11: Immunocytochemistry analysis of A431 cells labeling Triosephosphate isomerase with Rabbit anti-Triosephosphate isomerase antibody (HA723632) at 1/100 dilution.



Cells were fixed in 4% paraformaldehyde for 15 minutes at room temperature, permeabilized with 0.1% Triton X-100 in PBS for 15 minutes at room temperature, then blocked with 1% BSA in 10% negative goat serum for 1 hour at room temperature. Cells were then incubated with Rabbit anti-Triosephosphate isomerase antibody (HA723632) at 1/100 dilution in 1% BSA in PBST overnight at 4 °C. Goat Anti-Rabbit IgG H&L (iFluor™ 488, HA1121) was used as the secondary antibody at 1/1,000 dilution. PBS instead of the primary antibody was used as the secondary antibody only control. Nuclear DNA was labelled in blue with DAPI.

Beta tubulin (HA601187, red) was stained at 1/100 dilution overnight at +4 °C. Goat Anti-Mouse IgG H&L (iFluor™ 594, HA1126) was used as the secondary antibody at 1/1,000 dilution.

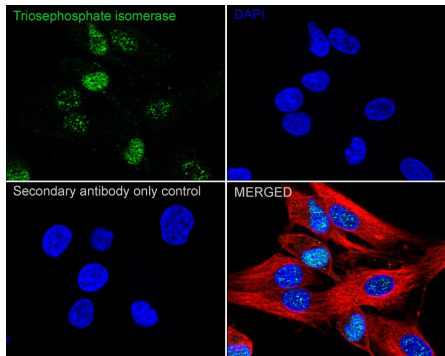
Fig12: Immunocytochemistry analysis of NIH/3T3 cells labeling Triosephosphate isomerase with Rabbit anti-Triosephosphate isomerase antibody (HA723632) at 1/100 dilution.



Cells were fixed in 4% paraformaldehyde for 15 minutes at room temperature, permeabilized with 0.1% Triton X-100 in PBS for 15 minutes at room temperature, then blocked with 1% BSA in 10% negative goat serum for 1 hour at room temperature. Cells were then incubated with Rabbit anti-Triosephosphate isomerase antibody (HA723632) at 1/100 dilution in 1% BSA in PBST overnight at 4 °C. Goat Anti-Rabbit IgG H&L (iFluor™ 488, HA1121) was used as the secondary antibody at 1/1,000 dilution. PBS instead of the primary antibody was used as the secondary antibody only control. Nuclear DNA was labelled in blue with DAPI.

Beta tubulin (HA601187, red) was stained at 1/100 dilution overnight at +4°C. Goat Anti-Mouse IgG H&L (iFluor™ 594, HA1126) was used as the secondary antibody at 1/1,000 dilution.

Fig13: Immunocytochemistry analysis of C6 cells labeling Triosephosphate isomerase with Rabbit anti-Triosephosphate isomerase antibody (HA723632) at 1/100 dilution.



Cells were fixed in 4% paraformaldehyde for 15 minutes at room temperature, permeabilized with 0.1% Triton X-100 in PBS for 15 minutes at room temperature, then blocked with 1% BSA in 10% negative goat serum for 1 hour at room temperature. Cells were then incubated with Rabbit anti-Triosephosphate isomerase antibody (HA723632) at 1/100 dilution in 1% BSA in PBST overnight at 4 °C. Goat Anti-Rabbit IgG H&L (iFluor™ 488, HA1121) was used as the secondary antibody at 1/1,000 dilution. PBS instead of the primary antibody was used as the secondary antibody only control. Nuclear DNA was labelled in blue with DAPI.

Beta tubulin (HA601187, red) was stained at 1/100 dilution overnight at +4°C. Goat Anti-Mouse IgG H&L (iFluor™ 594, HA1126) was used as the secondary antibody at 1/1,000 dilution.

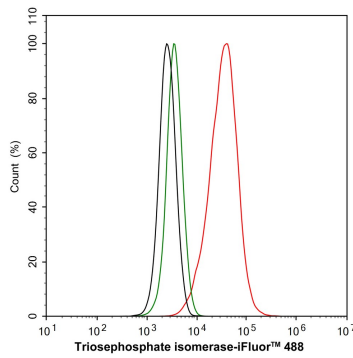


Fig14: Flow cytometric analysis of A431 cells labeling Triosephosphate isomerase.

Cells were fixed and permeabilized. Then stained with the primary antibody (HA723632, 1/1,000) (red) compared with Rabbit IgG Isotype Control (green). After incubation of the primary antibody at +4°C for an hour, the cells were stained with a iFluor™ 488 conjugate-Goat anti-Rabbit IgG Secondary antibody (HA1121) at 1/1,000 dilution for 30 minutes at +4°C. Unlabelled sample was used as a control (cells without incubation with primary antibody; black).

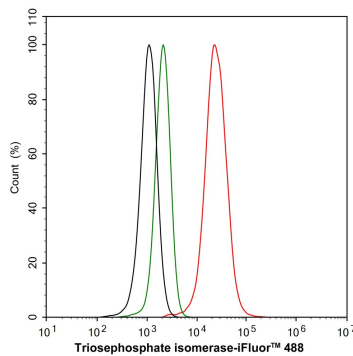


Fig15: Flow cytometric analysis of NIH/3T3 cells labeling Triosephosphate isomerase.

Cells were fixed and permeabilized. Then stained with the primary antibody (HA723632, 1/1,000) (red) compared with Rabbit IgG Isotype Control (green). After incubation of the primary antibody at +4°C for an hour, the cells were stained with a iFluor™ 488 conjugate-Goat anti-Rabbit IgG Secondary antibody (HA1121) at 1/1,000 dilution for 30 minutes at +4°C. Unlabelled sample was used as a control (cells without incubation with primary antibody; black).

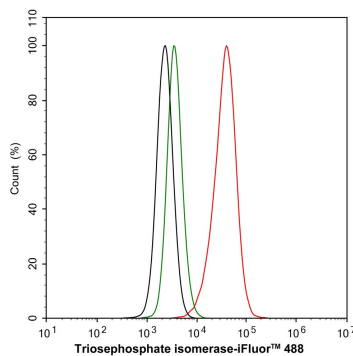


Fig16: Flow cytometric analysis of C6 cells labeling Triosephosphate isomerase.

Cells were fixed and permeabilized. Then stained with the primary antibody (HA723632, 1/1,000) (red) compared with Rabbit IgG Isotype Control (green). After incubation of the primary antibody at +4°C for an hour, the cells were stained with a iFluor™ 488 conjugate-Goat anti-Rabbit IgG Secondary antibody (HA1121) at 1/1,000 dilution for 30 minutes at +4°C. Unlabelled sample was used as a control (cells without incubation with primary antibody; black).

Note: All products are "FOR RESEARCH USE ONLY AND ARE NOT INTENDED FOR DIAGNOSTIC OR THERAPEUTIC USE".

Background References

1. Pekel G. et. al. Therapeutic Targeting of Cancer Metabolism with Triosephosphate Isomerase. Chem Biodivers. 2020 May
2. Rodríguez-Bolaños M. et. al. Medical and Veterinary Importance of the Moonlighting Functions of Triosephosphate Isomerase. Curr Protein Pept Sci. 2019

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