abcam

ab112997

Anti-Transketolase antibody [7H1AA1]

Key facts

Isotype	IgG1
Host species	Mouse
Storage buffer	pH: 7.5 Preservative: 0.02% Sodium azide Constituents: 99.98% HEPES buffered saline
Form	Liquid
Clonality	Monoclonal
Clone number	7H1AA1
Purification technique	Proprietary technique
Specificity	Shotgun immunization of human HeLa cell lysates into mice. Targets were determined by mass spectrometry and validated by WB, ICC, ELISA pair and other techniques.
Light chain type	kappa
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	ab112997 was produced in vitro using hybridomas grown in serum-free medium, and then purified by biochemical fractionation. Monoclonal purity was near homogeneity as judged by SDS-PAGE (>95%).

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	1 µg/mL
Notes	ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

WB

Tested

Species	Human
Dilution info	1 µg/mL
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1 µg/mL
Notes	-

IHC-P

Tested

Species	Human
Dilution info	5 µg/mL
Notes	-

Target data

See full target information Transketolase

Function	Catalyzes the transfer of a two-carbon ketol group from a ketose donor to an aldose acceptor, via a covalent intermediate with the cofactor thiamine pyrophosphate.

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	Do Not Freeze

Notes

Want a custom formulation?
This antibody clone is manufactured by Abcam. If you require a custom buffer formulation or conjugation for your experiments, please contact orders@abcam.com

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	Transketolase (TKT) is an important enzyme that plays an important mechanical role in the pentose phosphate pathway by catalyzing the transfer of ketol groups from ketose donors to aldose acceptors. This process forms part of the non-oxidative segment of the pathway converting ribose 5-phosphate into other sugars equipped for nucleotide synthesis and energy metabolism. TKT is also recognized under the name erythrocyte transketolase as it is found in high abundance in erythrocytes. The enzyme has a molecular mass of around 73 kDa and expresses broadly in human tissues especially within liver and fat cells where it supports carbohydrate metabolism.
Biological function summary	Transketolase participates in critical cellular metabolic processes facilitating cellular growth and repair by supporting the synthesis of nucleotides and amino acids. It does not function alone but rather operates as part of a complex with other enzymes such as transaldolase within the pentose phosphate pathway. The direct activity of erythrocyte transketolase can be essential for maintaining redox balance and providing intermediates that impact cell proliferation and antioxidant defense mechanisms.
Pathways	With regard to pathways involved in carbohydrate metabolism TKT plays an important role in the pentose phosphate pathway and glycolysis. In the pentose phosphate pathway TKT collaborates with enzymes like glucose-6-phosphate dehydrogenase to provide ribose-5-phosphate for nucleic acid synthesis and NADPH for reductive biosynthesis and oxidative stress defense. Its relationship with transaldolase in this pathway showcases a tightly regulated enzymatic network that maintains cellular homeostasis.
Associated diseases and disorders	TKT is associated with metabolic dysfunctions such as diabetes and certain neurodegenerative diseases including Wernicke's encephalopathy. In diabetes changes in transketolase activity can disturb glucose metabolism and contribute to

oxidative stress linking it subconsciously with enzymes like phospholipase C which play roles in lipid signaling and cellular responses. Additionally reduced erythrocyte transketolase activity connects with thiamine deficiency in Wernicke's encephalopathy further affecting brain functions and metabolic pathways relying on proper transketolase function.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

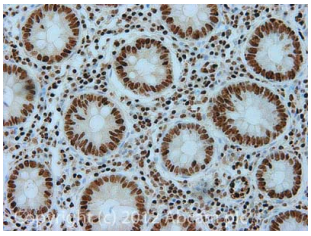
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

4 product images

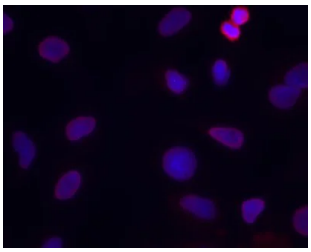


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Transketolase antibody [7H1AA1] (ab112997)

Transketolase Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using mouse Anti-Transketolase antibody

IHC image of Transketolase staining in Human normal colon formalin fixed paraffin embedded tissue section, performed on a Leica BondTM system using the standard protocol F. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH6, epitope retrieval solution 1) for 20 mins. The section was then incubated with ab112997, 5µg/ml, for 15 mins at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.

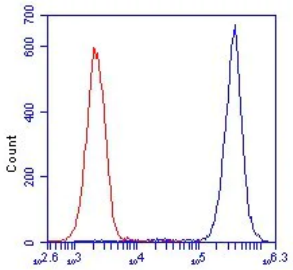
For other IHC staining systems (automated and non-automated) customers should optimize variable parameters such as antigen retrieval conditions, primary antibody concentration and antibody incubation times.



Immunocytochemistry/ Immunofluorescence - Anti-Transketolase antibody [7H1AA1] (ab112997)

Transketolase Immunocytochemistry/ Immunofluorescence staining using mouse Anti-Transketolase antibody

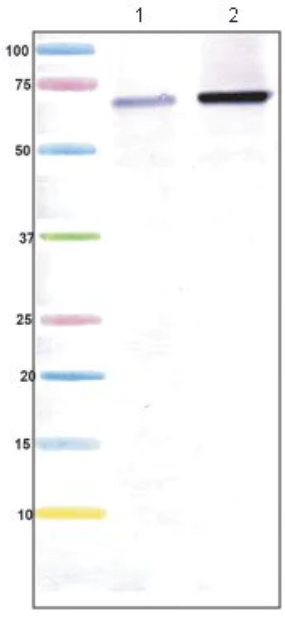
ab112997 at 1ug/ml staining Transketolase in HeLa cells by Immunocytochemistry (4% paraformaldehyde fixed and 0.1% Triton X-100 permeabilized) followed by Alexa Fluor® 594 goat anti-mouse IgG (H+L) used at a 1/1000 dilution for 1 hour (red). Nuclei were stained with DAPI (blue). Non specific fluorescence was reduced using a signal enhancer.



Flow Cytometry - Anti-Transketolase antibody [7H1AA1] (ab112997)

Transketolase Flow Cytometry staining using mouse Anti-Transketolase antibody

ab112997 at 1ug/ml staining Transketolase in HL60 cells by Flow Cytometry (blue). Isotype control antibody (red).



Western blot - Anti-Transketolase antibody [7H1AA1] (ab112997)

All lanes:
Western blot - Anti-Transketolase antibody [7H1AA1] (ab112997) at 1 µg/mL

Lane 1:
HepG2 Cell Lysate at 20 µg

Lane 2:
HeLa Cell Lysate at 20 µg

Predicted band size: 68 kDa

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.