SANTA CRUZ BIOTECHNOLOGY, INC.

TIM (H-11): sc-166785

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Glycolysis is an evolutionarily conserved series of ten chemical reactions that utilizes eleven enzymes to concomitantly generate pyruvate and ATP from glucose. Triosephosphate isomerase, known as TIM or TPI, is ubiquitously expressed and catalyzes the interconversion of dihydroxyacetone phosphate (DHAP) and glyceraldehyde-3-phosphate in the glycolitic pathway. The human TIM gene spans 3.5 kilobase pairs, contains seven exons and encodes a 249 amino acid protein. The TIM promoter element contains a TATA box (positions-27 to -21) and multiple GC boxes (positions-126 to -48) that variably conform to the consensus Sp1-binding site. The GC boxes function in *cis* to the TATA box to control both the frequency and position of transcription initiation. Deficiencies in TIM result in a rare autosomal recessive condition where a metabolic block in glycolysis and accumulating DHAP in erythrocytes can lead to non-spherocytic hemolytic anemia, recurrent infections, cardiomyopathy and neuromuscular dysfunctions.

CHROMOSOMAL LOCATION

Genetic locus: TPI1 (human) mapping to 12p13.31; Tpi1 (mouse) mapping to 6 F2.

SOURCE

TIM (H-11) is a mouse monoclonal antibody raised against amino acids 1-249 representing full length TIM of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

TIM (H-11) is available conjugated to agarose (sc-166785 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166785 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166785 PE), fluorescein (sc-166785 FITC), Alexa Fluor® 488 (sc-166785 AF488), Alexa Fluor® 546 (sc-166785 AF546), Alexa Fluor® 594 (sc-166785 AF594) or Alexa Fluor® 647 (sc-166785 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-166785 AF680) or Alexa Fluor® 790 (sc-166785 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

TIM (H-11) is recommended for detection of TIM of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

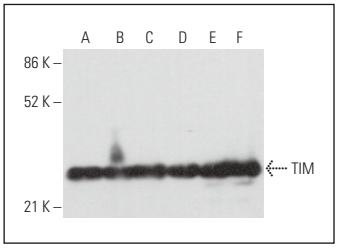
Suitable for use as control antibody for TIM siRNA (h): sc-37172, TIM siRNA (m): sc-37173, TIM shRNA Plasmid (h): sc-37172-SH, TIM shRNA Plasmid (m): sc-37173-SH, TIM shRNA (h) Lentiviral Particles: sc-37172-V and TIM shRNA (m) Lentiviral Particles: sc-37173-V.

Molecular Weight of TIM: 30 kDa.

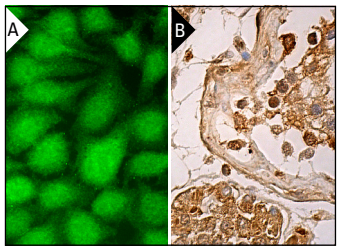
STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



TIM (H-11): sc-166785. Western blot analysis of TIM expression in ES-2 (**A**), RAW 264.7 (**B**), K-562 (**C**), Sol8 (**D**), Hep G2 (**E**) and HeLa (**F**) whole cell lysates.



TIM (H-11): sc-166785. Immunofluorescence staining of formalin-fixed HeLa cells showing nuclear and cytoplasmic localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human testis tissue showing cytoplasmic and nuclear staining of cells in seminiferous ducts and Leydig cells (**B**).

SELECT PRODUCT CITATIONS

1. Huang, Z., et al. 2011. Proteomic analysis of hippocampal proteins of F344 rats exposed to 1-bromopropane. Toxicol. Appl. Pharmacol. 257: 93-101.
2. Huang, Z., et al. 2012. Proteomic identification of carbonylated proteins in F344 rat hippocampus after 1-bromopropane exposure. Toxicol. Appl. Pharmacol. 263: 44-52.
3. Dutoit-Lefèvre, V., et al. 2015. An optimized fluorescence-based bidimensional immunoproteomic approach for accurate screening of autoantibodies. PLoS ONE 10: e0132142.
4. Cangelosi, D., et al. 2019. A proteomic analysis of GSD-1a in mouse livers: evidence for metabolic reprogramming, inflammation, and macrophage polarization. J. Proteome Res. 18: 2965-2978.
5. Ayimugu, A., et al. 2020. Investigation of the involvement of Parkin in Parkinson's disease and cancer by monitoring the changes in SH-SY5Y cells at the nuclear proteome level. Anticancer Res. 40: 3169-3190.
6. Matos, B., et al. 2021. Chronic exercise training attenuates prostate cancer-induced molecular remodelling in the testis. Cell. Oncol. 44: 311-327.
7. Zhou, W.J., et al. 2022. Fructose-1,6-bisphosphate prevents pregnancy loss by inducing decidual COX-2+ macrophage differentiation. Sci. Adv. 8: eabj2488.
8. Tsutsumi, R., et al. 2023. Endocytic vesicles act as vehicles for glucose uptake in response to growth factor stimulation. bioRxiv. E-published.
9. Tsutsumi, R., et al. 2024. Endocytic vesicles act as vehicles for glucose uptake in response to growth factor stimulation. Nat. Commun. 15: 2843.

RESEARCH USE

For research use only, not for use in diagnostic procedures.