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Product datasheet for TA336570

PDHA1 Rabbit Polyclonal Antibody

Product data:

Product Type:	Primary Antibodies
Applications:	FC, ICC/IF, Immunoblotting, IP, WB
Recommended Dilution:	Immunocytochemistry/ Immunofluorescence: 1:50-1:250, Western Blot: 1:1000-1:5000, Immunoprecipitation, Knockout Validated, Flow Cytometry, Immunoblotting
Reactivity:	Human, Mouse, Rat
Host:	Rabbit
Clonality:	Polyclonal
Immunogen:	A synthetic peptide surrounding the phosphorylated serine 293 of the human Pyruvate Dehydrogenase E1-alpha subunit protein. [Swiss-Prot #P08559]
Formulation:	PBS, 0.02% Sodium Azide. Store at 4C short term. Aliquot and store at -20C long term. Avoid freeze-thaw cycles.
Concentration:	lot specific
Purification:	Immunogen affinity purified
Conjugation:	Unconjugated
Storage:	Store at -20°C as received.
Stability:	Stable for 12 months from date of receipt.
Predicted Protein Size:	43 kDa
Gene Name:	pyruvate dehydrogenase (lipoamide) alpha 1
Database Link:	NP_000275 Entrez Gene 18597 MouseEntrez Gene 29554 RatEntrez Gene 5160 Human P08559

View online »

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Background: Pyruvate dehydrogenase (PDH) complex is localized to mitochondrial matrix, wherein it catalyzes the irreversible oxidative decarboxylation of pyruvate to generate acetyl-CoA, NADH, and CO2. The PDH complex contains three primary enzyme components: pyruvate dehydrogenase (E1 or PDHA- heterotetramer of two alpha- and two beta-subunits), dihydrolipoamide transacetylase (E2 or DLAT), and dihydrolipoamide dehydrogenase (E3 or DLD). The activity of PDH is controlled by specific E1 kinase and phospho-E1-phosphatase enzymes, which respectively inactivate and activate PDH complex by phosphorylation and dephosphorylation of E1alpha-subunit's serine residues. PDK family kinases mediated phosphorylation at Ser-293 blocks the access to active site leading to inactivation of the enzyme and vice versa. E3-binding protein (E3BP) is another component which is required for proper interaction of E2 and E3 components, and the overall complex contains 12 copies of E3, 30 copies of E1, 60 copies of E2, and 12 copies of E3BP. Acetyl-CoA generated gets utilized in TCA (citric acid/Krebs cycle) where it reacts with oxaloacetate to form citrate or it may also be used for biosynthesis of fatty acid or cholesterol. Defects in PDHA1 are a cause of pyruvate dehydrogenase E1-alpha deficiency (PDHAD), X-linked Leigh syndrome (X-LS) and it has also been implicated in ageing, glucose intolerance, cancer as well as Alzheimer's disease.

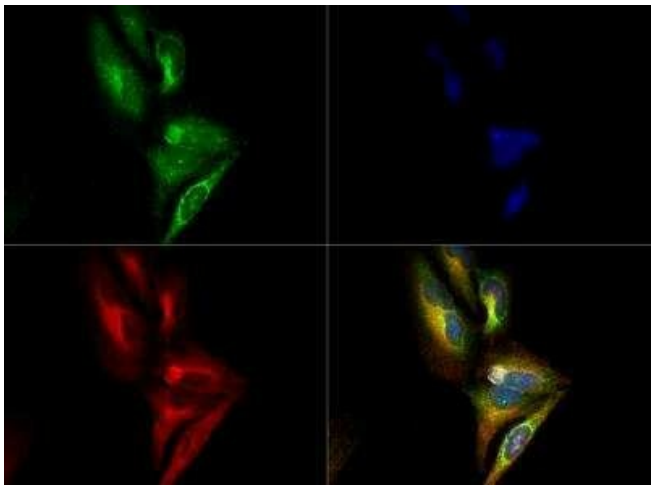
Synonyms: PDHA; PDHAD; PDHCE1A; PHE1A

Note: This Pyruvate Dehydrogenase E1-alpha subunit antibody is useful for Immunocytochemistry/immunofluorescence and Western blot, where a band is seen ~43 kDa.

Protein Families: Druggable Genome

Protein Pathways: Butanoate metabolism, Citrate cycle (TCA cycle), Glycolysis / Gluconeogenesis, Metabolic pathways, Pyruvate metabolism, Valine, leucine and isoleucine biosynthesis

Product images:



Immunocytochemistry/Immunofluorescence: Pyruvate Dehydrogenase E1-alpha subunit [p Ser293] Antibody TA336570 - Pyruvate Dehydrogenase E1-alpha subunit [p Ser293] antibody (1:250) was tested in HeLa cells with DyLight 488 (green). Nuclei and alpha-tubulin were counterstained with DAPI (blue) and DyLight 550 (red).

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