

Rabbit anti-Human PYCR1 Polyclonal Antibody | anti-PYCR1 antibody

Anti-PYCR1 Antibody Picoband

CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA19858	Rabbit	Human	Western Blot, Immunohistochemistry, Immunocytochemistry, Immunofluorescence, Flow Cytometry, Functional Assay, ELISA

PRODUCT SYNONYMS

PYCR1; Polyclonal Antibody; Anti-PYCR1 Antibody Picoband; Long-chain-fatty-acid--CoA ligase 3; solute carrier family 25 member 1; Tricarboxylate transport protein; mitochondrial; Citrate transport protein; CTP; Solute carrier family 25 member 1; Tricarboxylate carrier protein; SLC25A1; SLC20A3; anti-PYCR1 antibody

PRODUCT SPECIFICATIONS

Host	Rabbit
Reactivity	Human
Clonality	Polyclonal
Isotype	Rabbit IgG
Specificity	Detected in brain. Detected at very much lower levels in heart, lung, placenta and skeletal muscle. Highly expressed in cerebellum, but also found in frontal cortex, hippocampus and basal ganglia.
Purity/Purification	Immunogen affinity purified.
Form/Format	Lyophilized. Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na ₂ HPO ₄ .
Applicable Applications for anti-PYCR1 antibody	WB (Western Blot), IHC (Immunohistochemistry), ICC (Immunocytochemistry), IF (Immunofluorescence), FCM/FACS (Flow Cytometry), ELISA
Application Notes	WB: 0.25-0.5ug/ml, Human IHC(Paraffin-embedded Section): 2-5ug/ml, Human ICC/IF: 5ug/ml, Human IF: 5ug/ml, Human FC/FACS (Fixed): 1-3ug/1x10 ⁶ cells, Human ELISA: 0.1-0.5ug/ml
Immunogen	E coli-derived human PYCR1 recombinant protein (Position: Q10-D319).
Subcellular Localization	Mitochondrion inner membrane. Multi-pass membrane protein
Reconstitution	Adding 0.2 ml of distilled water will yield a concentration of 500ug/ml.
Cross Reactivity	No cross-reactivity with other proteins.
Protein Function	Citrate transporter that mediates the exchange of mitochondrial citrate for cytosolic malate. Also able to mediate the exchange of citrate for isocitrate, phosphoenolpyruvate, cis- but not trans-aconitate and to a lesser extend maleate and succinate. Important for the bioenergetics of hepatic cells as it provides a carbon source for fatty acid and sterol biosyntheses, and NAD ⁺ for the glycolytic pathway. Required for proper neuromuscular junction formation (Probable).
Preparation and Storage	At -20 degree C for one year from date of receipt. After reconstitution, at 4 degree C for one month. It can also be aliquotted and stored frozen at -20 degree C for six months. Avoid repeated freezing and thawing.



FCM (Flow Cytometry)

Figure 6. Flow Cytometry analysis of 293T cells using anti-PYCR1 antibody (AAA19858). Overlay histogram showing 293T cells stained with AAA19858 (Blue line). To facilitate intracellular staining, cells were fixed with 4% paraformaldehyde and permeabilized with permeabilization buffer. The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-PYCR1 Antibody (AAA19858, 1ug/1x10⁶ cells) for 30 min at 20 degree C. DyLight488 conjugated goat anti-rabbit IgG was used as secondary antibody for 30 minutes at 20 degree C. Isotype control antibody (Green line) was rabbit IgG (1ug/1x10⁶) used under the same conditions. Unlabelled sample (Red line) was also used as a control.



IF (Immunofluorescence)

Figure 4. IF analysis of PYCR1 using anti-PYCR1 antibody (AAA19858).PYCR1 was detected in an immunocytochemical section of U2OS cells. Enzyme antigen retrieval was performed using IHC enzyme antigen retrieval reagent (epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2ug/ml rabbit anti-PYCR1 Antibody (AAA19858) overnight at 4 degree C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37 degree C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2ug/ml rabbit anti-PYCR1 Antibody (AAA19858) overnight at 4 degree C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37 degree C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (Lane 2: human PANC-1 whole cell lysates, Lane 3: human 293T whole cell lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-PYCR1 antigen affinity purified polyclonal antibody (#AAA19858) at 0.5ug/mL overnight at 4 degree C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (35 kDa.



IF (Immunofluorescence)

Figure 5. IF analysis of PYCR1 using anti-PYCR1 antibody (AAA19858).PYCR1 was detected in a paraffin-embedded section of human glioma tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 5ug/mL rabbit anti-PYCR1 Antibody (AAA19858) overnight at 4 degree C. Cy3 Conjugated Goat Anti-Rabbit IgG (BA1032) was used as secondary antibody at 1:500 dilution and incubated for 30 minutes at 37 degree C. The section was counterstained with DAPI. Visualize using a fluorescence microscope and filter sets appropriate for the label used.

ADDITIONAL INFORMATION

Related Product Information for anti-PYCR1 antibody	The brand Picoband indicates this is a premium antibody that guarantees superior quality, high affinity, and strong signals with minimal background in Western blot applications. Only our best-performing antibodies are designated as Picoband, ensuring unmatched performance.
Product Categories/Family for anti-PYCR1 antibody	Primary Antibodies ; Cancer ; Cell Biology ; Metabolic Signaling Pathways ; Metabolism ; Pathways and Processes ; Signal Transduction
References	1. Al-Gazali, L. I., Sztrihai, L., Skaff, F., Haas, D. Geroderma osteodysplastica and wrinkly skin syndrome: are they the same? Am. J. Med. Genet. 101: 213-220, 2001. 2. De Ingeniis, J., Ratnikov, B., Richardson, A. D., Scott, D. A., Aza-Blanc, P., De, S. K., Kazanov, M., Pellecchia, M., Ronai, Z., Osterman, A. L., Smith, J. W. Functional specialization in proline biosynthesis of melanoma. PLoS One 7: e45190, 2012. Note: Electronic Article.3. Dougherty, K. M., Brandriss, M. C., Valle, D. Cloning human pyrroline-5-carboxylate reductase cDNA by complementation in Saccharomyces cerevisiae. J. Biol. Chem. 267: 871-875, 1992.

NCBI AND UNIPROT INFORMATION

NCBI GI #	533112488
NCBI GeneID	5831
NCBI Accession #	NP_001269209.1
NCBI GenBank Nucleotide #	NM_001282280.1

UniProt Accession #	P32322; Q6FHI4; Q96DI6; Q9HBQ4; A6NFM2; B4DMU0
Molecular Weight	35,981 Da
NCBI Official Full Name	pyrroline-5-carboxylate reductase 1, mitochondrial isoform 1
NCBI Official Synonym Full Names	pyrroline-5-carboxylate reductase 1
NCBI Official Symbol	PYCR1
NCBI Official Synonym Symbols	P5C; P5CR; PRO3; PYCR; PIG45; PP222; ARCL2B; ARCL3B
NCBI Protein Information	pyrroline-5-carboxylate reductase 1, mitochondrial; P5C reductase 1; proliferation-inducing protein 45
UniProt Protein Name	Pyrroline-5-carboxylate reductase 1, mitochondrial
UniProt Gene Name	PYCR1
UniProt Synonym Gene Names	P5C reductase 1; P5CR 1
UniProt Entry Name	P5CR1_HUMAN

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