

Store at
-20C
#47935**PYCR1 Antibody**

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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications: W, IP	Reactivity: H	Sensitivity: Endogenous	MW (kDa): 30, 32	Source/Isotype: Rabbit	UniProt ID: #P32322	Entrez-Gene Id: 5831
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Product Usage Information**Application**

Western Blotting
Immunoprecipitation

Dilution

1:1000
1:100

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at -20°C. Do not aliquot the antibody.

Specificity/Sensitivity

PYCR1 Antibody recognizes endogenous levels of total PYCR1 protein.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues near the carboxy terminus of human PYCR1 protein. Antibodies are purified by protein A and peptide affinity chromatography.

Background

Mitochondrial pyrroline-5-carboxylate reductase 1 (PYCR1) catalyzes the last step in proline biosynthesis (1). Research studies show that proline is a limiting amino acid to clear cell renal cell carcinoma (ccRCC). *PYCR1* expression is induced in kidney cancer cells to compensate for the proline shortage and maintain cancer cell growth. Furthermore, *PYCR1* knockdown inhibits ccRCC cell proliferation in the absence of proline, suggesting this enzyme as a potential cancer therapeutic target (2). In addition, breast cancer cells also express high levels of PYCR1 (2,3). Proline is restrictive to invasive ductal breast carcinoma cells, indicating proline vulnerability in breast cancer formation (2).

Background References

- Christensen, E.M. et al. (2017) *J Biol Chem* 292, 7233-43.
- Loayza-Puch, F. et al. (2016) *Nature* 530, 490-4.
- Possemato, R. et al. (2011) *Nature* 476, 346-50.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v nonfat dry milk, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting **IP:** Immunoprecipitation

Cross-Reactivity Key

H: Human

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