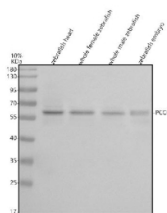


## Zebrafish Pccb Antibody / Propionyl-CoA carboxylase beta chain (RZ1264)

Catalog No.	Formulation	Size
RZ1264	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

**Bulk quote request**

<b>Availability</b>	2-3 weeks
<b>Species Reactivity</b>	Zebrafish
<b>Format</b>	Antigen affinity purified
<b>Clonality</b>	Polyclonal (rabbit origin)
<b>Isotype</b>	Rabbit Ig
<b>Purity</b>	Antigen affinity chromatography
<b>Buffer</b>	Lyophilized from 1X PBS with 2% Trehalose
<b>UniProt</b>	B0V0X1
<b>Applications</b>	Western Blot : 0.5-1ug/ml
<b>Limitations</b>	This Zebrafish Pccb antibody is available for research use only.



Western blot analysis of Pccb protein using Zebrafish Pccb antibody and 1) zebrafish head, 2) whole female zebrafish, 3) whole male zebrafish and 4) zebrafish embryo tissue lysate. Predicted molecular weight ~61 kDa.

### Description

Pccb (Propionyl-CoA carboxylase beta subunit) is a key enzyme involved in the propionate metabolism pathway, where it plays a crucial role in the conversion of propionyl-CoA to methylmalonyl-CoA, a step that is essential for the proper functioning of the citric acid cycle. Pccb is part of the larger propionyl-CoA carboxylase complex, which is responsible for maintaining metabolic homeostasis, particularly during the breakdown of certain amino acids and fatty acids.

In zebrafish, Pccb is an ortholog of the human PCCB gene. Both zebrafish and human Pccb proteins share significant sequence conservation and functional similarity, especially in their roles in energy metabolism and biochemical processing. This conservation makes zebrafish an excellent model for studying the physiological and biochemical

functions of Pccb, as well as its involvement in metabolic diseases.

The Pccb protein functions in the mitochondria, where it catalyzes the conversion of propionyl-CoA into methylmalonyl-CoA. This reaction is important for the metabolism of certain amino acids, particularly valine, isoleucine, and threonine, as well as for the catabolism of odd-chain fatty acids. Additionally, the proper function of Pccb is critical for the synthesis of succinyl-CoA, a key intermediate in the citric acid cycle, which is essential for energy production in cells.

In zebrafish, Pccb is expressed in various tissues, with prominent expression in the liver, heart, and muscle, which are important for metabolic processing and energy regulation. The enzyme is especially critical during embryonic development, where metabolic pathways must be tightly regulated to support rapid growth and tissue differentiation.

Defects in Pccb function in both zebrafish and humans can lead to methylmalonic acidemia, a disorder characterized by an accumulation of methylmalonic acid and propionyl-CoA in the blood, which can cause developmental delays, neurological impairment, and metabolic complications. Studying zebrafish Pccb offers valuable insights into the molecular basis of metabolic diseases and the role of propionate metabolism in maintaining cellular homeostasis.

## Application Notes

Optimal dilution of the Zebrafish Pccb antibody should be determined by the researcher.

## Immunogen

E. coli-derived zebrafish Pccb recombinant protein (amino acids D99-L555) was used as the immunogen for the Zebrafish Pccb antibody.

## Storage

After reconstitution, the Zebrafish Pccb antibody can be stored for up to one month at 4°C. For long-term, aliquot and store at -20°C. Avoid repeated freezing and thawing.