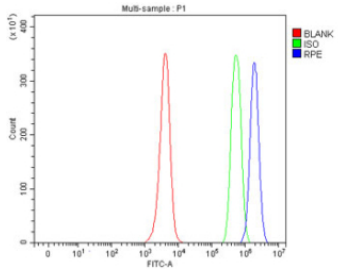
RPE Antibody / Ribulose-phosphate 3-epimerase (RQ8870)

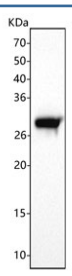
Catalog No.	Formulation	Size
RQ8870	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

Availability	1-3 days
Species Reactivity	Human, Mouse
Format	Antigen affinity purified
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen affinity chromatography
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	Q96AT9
Applications	Western Blot : 1-2ug/ml Flow Cytometry : 1-3ug/million cells ELISA : 0.1-0.5ug/ml
Limitations	This RPE antibody is available for research use only.



Flow cytometry testing of fixed and permeabilized human JK cells with RPE antibody at 1ug/million cells (blocked with goat sera); Red=cells alone, Green=isotype control, Blue= RPE antibody.



Western blot testing of mouse liver tissue lysate with RPE antibody. Predicted molecular weight ~25 kDa.

Description

Ribulose-phosphate 3-epimerase (RPE) is a key enzyme in the pentose phosphate pathway, an essential metabolic route that generates ribose-5-phosphate for nucleotide biosynthesis and produces NADPH to maintain cellular redox balance. RPE specifically catalyzes the reversible interconversion of ribulose-5-phosphate and xylulose-5-phosphate, thereby contributing to both nucleotide metabolism and antioxidant defense mechanisms. Given its fundamental role, changes in RPE activity can influence cell growth, oxidative stress management, and overall metabolic homeostasis.

RPE is a highly conserved protein across species, with structural studies revealing its TIM barrel fold, a characteristic motif among enzymes that catalyze carbohydrate transformations. Dysregulation of RPE has been implicated in metabolic disturbances, including altered flux through the pentose phosphate pathway, which can contribute to disease mechanisms such as cancer metabolism and oxidative stress-related conditions. Because of its importance in balancing biosynthetic and redox demands, RPE has gained attention as a potential biomarker in certain metabolic and proliferative diseases.

Research tools such as the RPE antibody enable scientists to investigate this protein's expression and regulation under physiological and pathological conditions. The RPE antibody has applications in western blotting, immunohistochemistry, and other immunoassays, providing critical insights into its localization and expression patterns. NSJ Bioreagents offers the RPE antibody to support studies exploring metabolic regulation, cellular stress responses, and disease-related alterations in the pentose phosphate pathway.

Application Notes

Optimal dilution of the RPE antibody should be determined by the researcher.

Immunogen

An E.coli-derived human recombinant protein (amino acids D68-E110) was used as the immunogen for the RPE antibody.

Storage

After reconstitution, the RPE Antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.