

RPE Protein, Mouse, Recombinant (His)

General Information

Synonyms:	ribulose-5-phosphate-3-epimerase;2810429B02Rik;5730518J08Rik
Protein Construction:	A DNA sequence encoding the mouse RPE (Q8VEE0) (Met1-Arg228) was expressed with a C-terminal polyhistidine tag. Predicted N terminal: Met
Species:	Mouse
Expression Host:	HEK293 Cells
Accession:	Q8VEE0
Molecular Weight:	26.4 kDa (predicted); 27 kDa (reducing condition, due to glycosylation)

QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 90 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/µg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 µm filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:
A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

The "ribulose phosphate binding" superfamily defined by the Structural Classification of Proteins (SCOP) database is considered the result of divergent evolution from a common (beta/alpha)(8)-barrel ancestor. The superfamily includes d-ribulose 5-phosphate 3-epimerase (RPE), orotidine 5'-monophosphate decarboxylase (OMPDC), and 3-keto-l-gulonate 6-phosphate decarboxylase (KGPDC). Replication of the human genome requires the activation of thousands of replicons distributed along each one of the chromosomes. Each replicon contains an initiation, or

origin, site, at which DNA synthesis begins. In enzymology, a L-ribulose-5-phosphate 3-epimerase is an enzyme that catalyzes the chemical reaction L-ribulose 5-phosphate to L-xylulose 5-phosphate. Hence, RPE has one substrate, L-ribulose 5-phosphate, and one product, L-xylulose 5-phosphate. RPE belongs to the family of isomerases, specifically those racemases and epimerases acting on carbohydrates and derivatives. The systematic name of this enzyme class is L-ribulose-5-phosphate 3-epimerase. Other names in common use include L-xylulose 5-phosphate 3-epimerase, UlaE, and SgaU.

Reference

Yew WS, et al., 2002, J. Bacteriol. 184 (1): 302-6.

Shimaoka, M. et al., 2005, Biosci Biotechnol Biochem 69 (7):1248-55.

Salinero, KK. et al., 2009, BMC Genomics 10 :351.

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