

RPE Protein, Human, Recombinant (C-His)

General Information

Synonyms:	HUSSY-17;RPE2-1
Protein Construction:	A DNA sequence encoding the human RPE isoform 1 (NP_954699.1) (Met 1-Arg 228) was expressed, with a polyhistidine tag at the C-terminus.
Species:	Human
Expression Host:	HEK293 Cells
Accession:	Q96AT9
Molecular Weight:	26.4 kDa (predicted); 26.4 kDa (reducing condition)

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 sterile PBS, pH 7.4. Please contact us for any concerns or special requirements. Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween 80 are added as protectants before lyophilization. Please refer to the specific buffer information in the hardcopy of datasheet or the lot-specific COA.

Preparation and Storage

Reconstitution:

Please refer to the lot-specific COA.

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.

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