Recombinant DEOC protein (His tag)

Catalog Number	539287
Synonyms	DERA; 2-deoxy-D-ribose 5-phosphate aldolase; Phosphodeoxyriboaldolase; Deoxyriboaldolase
Species	Human
Expression System	E. coli
Accession	Q9Y315
Molecular Weight	Predictes a molecular mass of 36.89 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 37 kDa band.

Product Information

Sequence Region	1-318
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>87%, by SDS-PAGE with Coomassie Brilliant Blue staining.
Endotoxin	Not tested.
Activity	Not tested.
Stability	Samples are stable for up to twelve months from date of receipt at -70℃
Protein Construction	DNA encoding 1-318 aa (Q9Y315) were fused with 6His tag.

Storage & Handling

Reconstitution	Reconstitute at 0.25 μg/μl in sterile water for short-term storage. Reconstitution with 50% glycerol solution is recommended for longer term storage (see Stability and Storage for more details). If a different concentration is needed for your purposes please adjust the reconstitution volume as required (please note: the ion concentration of the final solution will vary according to the volume used). Note: Centrifuge vial before opening. When reconstituting, gently pipet and wash down the sides of the vial to ensure full recovery of the protein into solution.
Storage	Store it under sterile conditions at -20℃ to -80℃. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.
Shipping	In general, recombinant proteins are provided as lyophilized powder which are shipped at ambient temperature. Bulk packages of recombinant proteins are provided as frozen liquid. They are shipped out with blue ice unless customers require otherwise.

Description

Description	Recombinant Human Deoxyribose-phosphate aldolase (DERA), a key enzyme in nucleotide metabolism, is available as a stable and soluble fragment (amino acids 1-318) optimized for structural and biochemical studies. This fragment retains the functional domain essential for catalyzing reversible aldol reactions and is ideal for investigating metabolic pathways and stress response mechanisms. Deoxyribose-phosphate aldolase (DERA), encoded by the DERA gene in Homo sapiens, catalyzes a reversible aldol reaction between acetaldehyde and D-glyceraldehyde 3-phosphate to generate 2-deoxy-D-ribose 5-phosphate, a critical step in nucleotide biosynthesis. Beyond its metabolic role, DERA participates in stress granule assembly during cellular stress and may facilitate ATP production from extracellular deoxyinosine under energy-deprived conditions. The protein localizes to the cytoplasm, cytoplasmic granules, and nucleus, with recruitment to stress granules (but not processing bodies) upon stressors like arsenite or energy deprivation, highlighting its involvement in cellular stress adaptation.