

## DHODH Protein, Rat (Cell-Free, His)

<b>Cat. No.:</b>	HY-P702264
<b>Synonyms:</b>	Dihydroorotate dehydrogenase (quinone), mitochondrial; Dihydroorotate oxidase
<b>Species:</b>	Rat
<b>Source:</b>	E. coli Cell-free
<b>Accession:</b>	Q63707 (M1-R395)
<b>Gene ID:</b>	65156
<b>Molecular Weight:</b>	44.2 kDa

### PROPERTIES

<b>AA Sequence</b>	<pre> MAWRQLRKRA   LDAV I I LGGG   GLLFTSYLTA   TGDDHFYAEY LMPGLQRLLD   PESAHLRAVR   VTSLGLLPRA   TFQDSDMLEV KVLGHKFRNP   VGI AAGFDKN   GEAVDGLYKL   GFGFVEVGSV TPQPQEGNPR   PRVFRLPEDQ   AVINRYGFNS   HGLSVVEHRL RARQKQQAQL   TADGLPLGIN   LGKNKTSEDA   AADYAEGVRT LGPLADYLVV   NVSSPNTAGL   RSLQGKTELR   HLLSKVLQER DALKGTRKPA   VLVKIAPDLT   AQDKEDIASV   ARELGIDGLI VTNTTTSRPV   GLQGALRSET   GGLSGKPLRD   LSTQTIREMY ALTQGRIP II   GVGGVSSGQD   ALEKI QAGAS   LVQLYTALIF LGPPVVVRVK   RELEALLKER   GFTT VTDAIG   ADHRR </pre>
<b>Appearance</b>	Lyophilized powder.
<b>Formulation</b>	Lyophilized from a 0.22 µm filtered solution of Tris/PBS-based buffer, 6% Trehalose, pH 8.0.
<b>Endotoxin Level</b>	<1 EU/µg, determined by LAL method.
<b>Reconstitution</b>	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH <sub>2</sub> O. For long term storage it is recommended to add 5-50% of glycerol (final concentration). Our default final concentration of glycerol is 50%. Customers could use it as reference.
<b>Storage &amp; Stability</b>	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
<b>Shipping</b>	Room temperature in continental US; may vary elsewhere.

### DESCRIPTION

<b>Background</b>	Dihydroorotate dehydrogenase (DHODH) is a key enzyme crucial for the de novo biosynthesis of UMP (uridine
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monophosphate). Functioning at a pivotal step in this pathway, DHODH catalyzes the conversion of dihydroorotate to orotate, employing quinone as an electron acceptor. This enzymatic activity is essential for the synthesis of UMP, a fundamental building block for RNA and DNA. By participating in the de novo pathway of pyrimidine biosynthesis, DHODH plays a critical role in providing the necessary nucleotide precursors for vital cellular processes, including DNA replication and RNA synthesis. The reliance on quinone as an electron acceptor underscores the intricate redox chemistry involved in DHODH function, highlighting its significance in maintaining the cellular pool of pyrimidine nucleotides and supporting essential cellular functions.

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**Caution: Product has not been fully validated for medical applications. For research use only.**

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