

OARD1 Protein, Human (Myc, His)

Cat. No.:	HY-P71658
Synonyms:	C6orf130; CF130_HUMAN; Chromosome 6 open reading frame 130; dJ34B21.3; O acetyl ADP ribose deacetylase C6orf130; Uncharacterized protein C6orf130
Species:	Human
Source:	E. coli
Accession:	Q9Y530 (2A-152L)
Gene ID:	221443
Molecular Weight:	Approximately 24.3 kDa

PROPERTIES

AA Sequence	<pre> A S S L N E D P E G S R I T Y V K G D L F A C P K T D S L A H C I S E D C R M G A G I A V L F K K K F G G V Q E L L N Q Q K K S G E V A V L K R D G R Y I Y Y L I T K K R A S H K P T Y E N L Q K S L E A M K S H C L K N G V T D L S M P R I G C G L D R L Q W E N V S A M I E E V F E A T D I K I T V Y T L </pre>
Appearance	Lyophilized powder.
Formulation	Lyophilized after extensive dialysis against solution in Tris-based buffer, 50% glycerol.
Endotoxin Level	<1 EU/ μ g, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 μ g/mL in ddH ₂ O.
Storage & Stability	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.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	<p>SLC25A5, an ADP:ATP antiporter, serves as a crucial mediator of mitochondrial energy dynamics, shuttling ADP into the mitochondrial matrix for ATP synthesis while exporting ATP to support cellular functions. Operating through the alternating access mechanism, it transitions between the cytoplasmic-open state (c-state) and the matrix-open state (m-state) at the inner mitochondrial membrane. Beyond its antiporter role, SLC25A5 contributes to mitochondrial uncoupling and mitochondrial permeability transition pore (mPTP) activity. Acting as a proton transporter, it induces mitochondrial thermogenesis by uncoupling proton flows via the electron transport chain and ATP synthase, thereby modulating ATP production efficiency. This proton transporter activity is finely regulated by the antiporter function, highlighting SLC25A5's role as a master regulator balancing ATP production and thermogenesis. SLC25A5's proton transport is facilitated by free fatty acids, acting as cofactors, without transporting them. Additionally, SLC25A5 plays a role in mitophagy regulation,</p>
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independently of its antiporter activity, by promoting mitophagy through interaction with TIMM44 and inhibiting the presequence translocase TIMM23, leading to PINK1 stabilization. It is also implicated in chromosome segregation as part of the mitotic spindle-associated MMXD complex. Furthermore, SLC25A5 is involved in mPTP opening, contributing to cellular processes such as cell death, although its exact role in pore formation remains unclear.

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

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA