Data Sheet (Cat.No.TMPY-05654)

TargetMol

ENSA Protein, Human, Recombinant (His), Biotinylated

General Information

Synonyms:	ARPP-19e;endosulfine alpha;endosulfine α
Protein Construction:	A DNA sequence encoding the mature form of human ENSA (O43768-1) (Met1-Glu121) was expressed with a polyhistide tag at the N-terminus. The purified protein was biotinylated in vitro. Predicted N terminal: His
Species:	Human
Expression Host:	E. coli
Accession:	O43768-1
Molecular Weight:	15.2 kDa (predicted); 18 kDa (reducing conditions)

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:	Please contact us for more information.
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

Endosulfine alpha, also known as ENSA, belongs to the endosulfine family. It is a highly conserved cAMP-regulated phosphoprotein (ARPP) family. Endosulfine alpha is widely expressed with high levels in skeletal muscle and brain and lower levels in the pancreas. As a protein phosphatase inhibitor, ENSA specifically inhibits protein phosphatase 2A (PP2A) during mitosis. When phosphorylated at Ser-67 during mitosis, specifically

interacts with PPP2R2D (PR55-delta) and inhibits its activity, leading to inactivation of PP2A, an essential condition to keep cyclin-B1-CDK1 activity high during M phase By similarity. Endosulfine alpha also acts as a stimulator of insulin secretion by interacting with sulfonylurea receptor (ABCC8), thereby preventing sulfonylurea from binding to its receptor and reducing K(ATP) channel currents.

Reference

Ye M. et al., 2001, Genome Res. 10 (10): 1546-60.
Apiou F. et al., 1999, Diabetes 48 (9): 1873-6.
Lennon G. et al., 1997, Genome Res. 6 (9): 791-806.