

## ENSA Protein, Human, Recombinant (His)

### General Information

Synonyms:	endosulfine alpha;endosulfine $\alpha$ ;ARPP-19e
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. 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 $\mu$ m 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

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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.

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