

AGO1 Protein, Human, Recombinant (His)

General Information

Synonyms:	EIF2C;GERP95;argonaute RISC catalytic component 1;EIF2C1;Q99
Protein Construction:	A DNA sequence encoding the full length of human AGO1 (NP_036331.1) (Met 1-Ala 857) was expressed, with a polyhistidine tag at the N-terminus. Predicted N terminal: His
Species:	Human
Expression Host:	Baculovirus Insect Cells
Accession:	Q9UL18
Molecular Weight:	99.5 kDa (predicted); 99.5 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:	> 85 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing 50 mM Tris, 100 mM NaCl, 10% Gly, 0.5 PMSF, 0.5 mM EDTA, pH 8.0. 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.
Shipping:	In general, Lyophilized powders are shipping with blue ice.

Protein Background

Protein argonaute-1, also known as eukaryotic translation initiation factor 2C 1, EIF2C1, and AGO1, is a member of the argonaute family and ago subfamily. Protein argonaute-1 in humans is encoded by the EIF2C1 gene. This gene is located on chromosome 1 in a cluster of closely related family members including argonaute 3, and argonaute 4. This genomic region is frequently lost in human cancers such as Wilms tumors, neuroblastoma, and

carcinomas of the breast, liver, and colon. The human EIF2C1 gene is ubiquitously expressed at low to medium levels. Differential polyadenylation and splicing result in a complex transcriptional pattern. EIF2C1 protein contains one PAZ domain and one Piwi domain. It is required for RNA-mediated gene silencing (RNAi) and transcriptional gene silencing (TGS) of promoter regions which are complementary to bound short antisense RNAs (agRNAs). EIF2C1 binds to short RNAs such as microRNAs (miRNAs) or short interfering RNAs (siRNAs), and represses the translation of mRNAs which are complementary to them.

Reference

Koesters R., et al., (1999), Human eukaryotic initiation factor EIF2C1 gene: cDNA sequence, genomic organization, localization to chromosomal bands 1p34-p35, and expression. *Genomics* 61:210-218.

Gregory S.G., et al., (2006), The DNA sequence and biological annotation of human chromosome 1. *Nature* 441: 315-321.

Motamedi M.R., et al., (2004), Two RNAi complexes, RITS and RDRC, physically interact and localize to noncoding centromeric RNAs. *Cell*. 119:789-802.

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