

Active Recombinant Human EIF2C2, His-tagged

Cat. No. EIF2C2-2180H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Human AGO2(Met 1-Ala 859), fused with His tag at N-terminal, was expressed in Baculovirus-Insect Cells.
Species	Human
Source	Insect Cells
ProteinLength	Met 1-Ala 859
Description	Argonaute 2 (AGO2), also known as Eukaryotic translation initiation factor 2C2 (EIF2C2), belongs to the Argonaute family, AGO subfamily, which is a component of the RNA-induced silencing complex (RISC) and mediates small interfering RNA (siRNA)-directed mRNA cleavage and microRNA translational suppression. AGO2 protein is the catalytic engine of mammalian RNAi. It contains a PIWI domain that is structurally related to RNases H and possibly shares with them a two-metal-ion catalysis mechanism. Human AGO2 was unable to cleave preformed RNA duplexes and exhibited weaker binding affinity for RNA duplexes compared with the single strand RNA. The enzyme exhibited greater RNase H activity in the presence of Mn²⁺ compared with Mg²⁺. Human AGO2 exhibited weaker binding affinities and reduced cleavage activities for antisense RNAs with either a 5'-terminal hydroxyl or abasic nucleotide. In mouse hematopoiesis, AGO2 controls early development of lymphoid and erythroid cells. AGO2 is a highly specialized member of the Argonaute family with an essential nonredundant Slicer-independent function within the mammalian miRNA pathway. AGO2 regulates dFMR1 expression, and the relationship between dFMR1

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and AGO2 was defined by their physical interaction and co-regulation of downstream targets. AGO2 and dFMR1 are also connected through a regulatory relationship. AGO2 is a regulator of dFMR1 expression and have clarified an important developmental role for AGO2 in the nervous system and germ line that requires dFMR1 function. In addition, AGO2 is regulated at both the transcriptional and posttranslational level, and also implicate AGO2 and enhanced micro-RNA activity in the tumorigenic progression of breast cancer cell lines.

Predicted N Terminal	Met
Form	Lyophilized from sterile 20mM Tris, 500mM NaCl, pH7.4,10% glycerol,2mM DTT1. Normally 5 % - 8 % trehalose and mannitol are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA.2. Please contact us for any concerns or special requirements.
Bio-activity	Human AGO2 can bind Let-7a RNA and cleave target RNA (21nt).
Molecular Mass	The recombinant human AGO2 consists of 877 amino acids and predicts a molecular mass of 99 kDa as estimated by SDS-PAGE under reducing conditions.
Endotoxin	< 1.0 EU per µg of the protein as determined by the LAL method.
Purity	> 85 % as determined by SDS-PAGE.
Stability	Samples are stable for up to twelve months from date of receipt at -70 centigrade.
Storage	Store it under sterile conditions at -20 centigrade to -80 centigrade. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.

Reconstitution

It is recommended that sterile water be added to the vial to prepare a stock solution.
Centrifuge the vial at 4°C before opening to recover the entire contents.

GENE INFORMATION

Gene Name AGO2 argonaute RISC catalytic component 2 [Homo sapiens]

Official Symbol AGO2

Synonyms Q10; EIF2C2; protein argonaute-2; CTA-204B4.6; PAZ Piwi domain protein; PPD; argonaute 2; argonaute2; eIF-2C 2; eIF2C 2; eukaryotic translation initiation factor 2C, 2; hAgo2; protein slicer

Gene ID 27161

mRNA Refseq NM_012154

Protein Refseq NP_036286

MIM 606229

UniProt ID Q9UKV8

Chromosome Location 8q24

Pathway Adaptive Immune System, organism-specific biosystem; Ca²⁺ pathway, organism-specific biosystem; Downstream signal transduction, organism-specific biosystem

Function RNA 7-methylguanosine cap binding; RNA polymerase II core binding; core promoter binding

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