

Human AGO2 / Argonaute 2 / EIF2C2 Protein (His Tag)

Catalog Number: 11079-H07B



Sino Biological Inc.
Biological Solution Specialist

General Information

Gene Name Synonym:

EIF2C2, AGO2, MGC3183, Q10

Protein Construction:

A DNA sequence encoding the full length of human AGO2 (NP_036286.2) (Met 1-Ala 859) was expressed with a polyhistidine tag at the N-terminus.

Source: Human

Expression Host: Baculovirus-Insect Cells

QC Testing

Purity: > 85 % as determined by SDS-PAGE

Bio-Activity

Human AGO2 (11079-H07B) can bind Let-7a RNA and cleave target RNA (21nt).

Endotoxin:

< 1.0 EU per µg of the protein as determined by the LAL method

Stability:

Samples are stable for up to twelve months from date of receipt at -70 °C

Predicted N terminal: Met

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.

Formulation:

Lyophilized from sterile 20mM Tris, 500mM NaCl, pH7.4, 10% glycerol, 2mM DTT

Normally 5 % - 8 % trehalose and mannitol are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

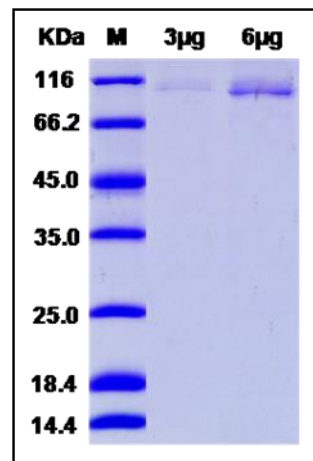
Usage Guide

Storage:

Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

SDS-PAGE:



Reconstitution:

Detailed reconstitution instructions are sent along with the products.

Protein Description

Gene silencing through RNA interference (RNAi) is carried out by the RNA-induced silencing complex (RISC), which contains two signature components, small interfering RNAs (siRNAs) and the catalytic components, Argonaute family proteins. Argonaute 2 (Ago2), also known as EIF2C2, binds to a short guide RNA such as a microRNA (miRNA) or short interfering RNA (siRNA), and these guide RNAs direct RISC to the complementary mRNAs that are targets for RISC-mediated gene silencing. The precise mechanism of gene silencing depends on the degree of complementarity between the miRNA or siRNA and its target. Ago2 has a P-element-induced wimpy testis (PIWI) domain, which folds like RNase H and is responsible for target mRNA cleavage with its endonuclease activity. Proteins such as Dicer, TRBP, MOV10, RHA, RCK/p54 and KIAA1093 associate with Ago proteins and participate in small RNA processing, RISC loading and localization of Ago proteins in the cytoplasmic mRNA processing bodies. In some cases RISC-mediated translational repression is also observed for miRNAs that perfectly match the 3' untranslated region (3'-UTR). However, Ago2 is also proposed to upregulate the translation of specific mRNAs under certain growth conditions.

References

1. Rand, T.A., et al., 2005, Cell. 123: 621-629.
2. Sen, G.L. and Blau, H.M., 2005, Nat. Cell. Biol. 7:633-636.
3. Qi, H.H. 2008, Nature. 455:421-424.
4. Liu, J. et al., 2004, Science. 305: 1437-1441.

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