

# Recombinant Human AGO2 Protein (517-818 aa), His-tagged

Cat. No. AGO2-1728H Lot. No. (See product label)

## SPECIFICATION

**Product Overview** Recombinant Human AGO2 Protein (517-818 aa) is produced by Yeast expression system. This protein is fused with a 6xHis tag at the N-terminal. Research Area: Epigenetics and Nuclear Signaling. Protein Description: Partial.

**Species** Human

**Source** Yeast

**ProteinLength** 517-818 aa

**Description** Required for RNA-mediated gene silencing (RNAi) by the RNA-induced silencing complex (RISC). The 'minimal RISC' appears to include AGO2 bound to a short guide RNA such as a microRNA (miRNA) or short interfering RNA (siRNA). These guide RNAs direct RISC to 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. Binding of RISC to a perfectly complementary mRNA generally results in silencing due to endonucleolytic cleavage of the mRNA specifically by AGO2. Binding of RISC to a partially complementary mRNA results in silencing through inhibition of translation, and this is independent of endonuclease activity. May inhibit translation initiation by binding to the 7-methylguanosine cap, thereby preventing the recruitment of the translation initiation factor eIF4-E. May also inhibit translation initiation via interaction with EIF6, which itself binds to the 60S ribosomal subunit and prevents its association with the 40S ribosomal subunit. The inhibition of translational initiation leads to the

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accumulation of the affected mRNA in Cytoplasmic domain processing bodies (P-bodies), where mRNA degradation may subsequently occur. In some cases RISC-mediated translational repression is also observed for miRNAs that perfectly match the 3' untranslated region (3'-UTR). Can also up-regulate the translation of specific mRNAs under certain growth conditions. Binds to the AU element of the 3'-UTR of the TNF (TNF-alpha) mRNA and up-regulates translation under conditions of serum starvation. Also required for transcriptional gene silencing (TGS), in which short RNAs known as antigene RNAs or agRNAs direct the transcriptional repression of complementary promoter regions.

**Form** Tris-based buffer, 50% glycerol

**Molecular Mass** 36.1 kDa

**AA Sequence** LVVVILPGKTPVYAEVKRVGDTVLMATQCVQMKNVQRTPQTLSNLCLKINVKLGG  
VNNILLPQGRPPVFQQPVIFLGADVTHPPAGDGKKPSIAAVVGSMDAHPNRYCATVR  
VQQHRQEIIQDLAAMVRELLIQFYKSTRFKPTRIIFYRDGVSEGQFQQVLHHELLAIRE  
ACIKLEKDYQPGITFIVVQKRHHTRLFCTDKNERVGKSGNIPAGTTVDTKITHPTEFDF  
YLCSHAGIQGTSRPSHYHVLWDDNRFSSDELQILTYQLCHTYVRCRSVSIAPAYY  
AHLVAFRARYHLV

**Purity** > 90% as determined by SDS-PAGE.

**Notes** Repeated freezing and thawing is not recommended. Store working aliquots at 4 centigrade for up to one week.

**Storage** The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20 centigrade/-80 centigrade. The shelf life of lyophilized form is 12 months at -20 centigrade/-80 centigrade.

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**Concentration** A hardcopy of COA with reconstitution instruction is sent along with the products.

## GENE INFORMATION

**Gene Name** AGO2 argonaute RISC catalytic component 2 [ Homo sapiens (human) ]

**Official Symbol** AGO2

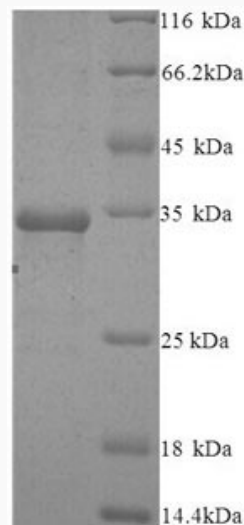
**Synonyms** PPD; Q10; CASC7; EIF2C2; LINC00980;

**Gene ID** 27161

**mRNA Refseq** NM\_001164623

**Protein Refseq** NP\_001158095

**UniProt ID** Q9UKV8



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(Tris-Glycine gel) Discontinuous SDS-PAGE (reduced) with 5% enrichment gel and 15% separation gel.

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