



AGO2 peptide (DAG-P0118)

This product is for research use only and is not intended for diagnostic use.

PRODUCT INFORMATION

Antigen Description

Required for RNA-mediated gene silencing (RNAi) by the RNA-induced silencing complex (RISC). The 'minimal RISC' appears to include EIF2C2/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 EIF2C2/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 accumulation of the affected mRNA in cytoplasmic 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 upregulate 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 upregulates 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.

Conjugate	Unconjugated
Sequence Similarities	Belongs to the argonaute family. Ago subfamily. Contains 1 PAZ domain. Contains 1 Piwi domain.
Format	Liquid
Preservative	None
Storage	Shipped at 4°C. Upon delivery aliquot and store at -20°C or -80°C. Avoid repeated freeze / thaw cycles. Information available upon request.

GENE INFORMATION

Gene Name	AGO2 Argonaute 2 [Drosophila melanogaster (fruit fly)]
Official Symbol	AGO2
Synonyms	AGO2; Argonaute 2; AGO2; ago; AGO 2; ago-2; Ago-2; ago2; Ago2; CG13452; CG7439; dAgo2; dAGO2; Dm Ago2; Dmel\CG7439; eIF2C2; AGO2-PB; AGO2-PC; AGO2-PE; ARGONAUTE2; CG7439-PB; CG7439-PC; CG7439-PE; argonaute; argonaute 2; argonaute-2;
Entrez Gene ID	39683
mRNA Refseq	NM_168626.3
Protein Refseq	NP_730054.1
UniProt ID	Q9VUQ5
Chromosome Location	71C3-71E5
Function	endoribonuclease activity; protein binding; siRNA binding; translation initiation factor activity;