AGO2/Argonaute-2 Protein, Mouse (sf9, His, solution)

Cat. No.:	HY-P74423Y
Synonyms:	Protein argonaute-2; Argonaute2; mAgo2; eIF-2C 2; Eif2c2
Species:	Mouse
Source:	Sf9 insect cells
Accession:	Q8CJGO (M1-A860)
Gene ID:	239528
Molecular Weight:	Approximately 105 kDa

PROPERTIES

Appearance	Solution.
Formulation	Supplied as a 0.2 μm filtered solution of 20 mM Tris, 500 mM NaCl, pH 7.4, 10% glycerol.
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconsititution	N/A.
Storage & Stability	Stored at -80°C for 1 year. It is stable at -20°C for 3 months after opening. It is recommended to freeze aliquots at -80°C for extended storage. Avoid repeated freeze-thaw cycles.
Shipping	Shipping with dry ice

DESCRIPTION

Background	AGO2, a pivotal player in RNA-mediated gene silencing (RNAi) orchestrated by the RNA-induced silencing complex (RISC), is indispensable for diverse regulatory processes. The 'minimal RISC' configuration involves AGO2 tethered to a short guide RNA, such as microRNA (miRNA) or short interfering RNA (siRNA), directing RISC to target mRNAs for silencing. The silencing mechanism hinges on the complementarity between the guide RNA and its target mRNA. Perfect complementarity prompts AGO2-mediated endonucleolytic cleavage, whereas partial complementarity inhibits translation independently of endonuclease activity. AGO2 can impede translation initiation by binding to the 7-methylguanosine cap, hindering eIF4-E recruitment, or through interaction with EIF6, preventing the association of ribosomal subunits. This translational repression leads to mRNA accumulation in cytoplasmic processing bodies (P-bodies), potentially culminating in mRNA degradation. Notably, AGO2 exhibits versatility by both repressing and promoting translation under distinct growth conditions. Furthermore, AGO2 is integral to transcriptional gene silencing (TGS), where short RNAs, such as antigene RNAs, guide the repression of complementary promoter regions. In the context of microbial infection, AGO2 associates with viral miRNA-like small RNA, such as CoV2-miR-O7a during Sars-CoV-2 infection, potentially repressing specific mRNAs, such as BATF2, to evade the interferon response.

Caution: Product has not been fully validated for medical applications. For research use only.

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