

KD-Validated Anti-Argonaute RISC catalytic component 2 Rabbit Monoclonal Antibody

Rabbit monoclonal antibody
Catalog # AGI2308

Product Information

Application	WB, FC, ICC
Primary Accession	Q9UKV8
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Isotype	Rabbit IgG
Clone Names	23GB 1790
Calculated MW	97208
Gene Name	AGO2
Aliases	AGO2; Argonaute RISC Catalytic Component 2; LINC00980; EIF2C2; Q10; Cancer Susceptibility Candidate 7 (Non-Protein Coding); Eukaryotic Translation Initiation Factor 2C, 2; PAZ Piwi Domain Protein; Protein Argonaute-2; Protein Slicer; HAGO2; CASC7; PPD; Eukaryotic Translation Initiation Factor 2C 2; Long Intergenic Non-Protein Coding RNA 980; Argonaute 2, RISC Catalytic Component; EC 3.1.26.N2; EC 3.1.26.N1; Argonaute 2; Argonaute2; EIF-2C 2; LESKRES; EIF2C 2; HAGO2
Immunogen	A synthesized peptide derived from human Argonaute 2

Additional Information

Gene ID	27161
Other Names	Protein argonaute-2 {ECO:0000255 HAMAP-Rule:MF_03031}, Argonaute2 {ECO:0000255 HAMAP-Rule:MF_03031}, hAgo2, 3.1.26.n2 {ECO:0000255 HAMAP-Rule:MF_03031, ECO:0000269 PubMed:15105377, ECO:0000269 PubMed:23746446}, Argonaute RISC catalytic component 2, Eukaryotic translation initiation factor 2C 2 {ECO:0000255 HAMAP-Rule:MF_03031}, eIF-2C 2 {ECO:0000255 HAMAP-Rule:MF_03031}, eIF2C 2 {ECO:0000255 HAMAP-Rule:MF_03031}, PAZ Piwi domain protein, PPD, Protein slicer {ECO:0000255 HAMAP-Rule:MF_03031}, AGO2 (HGNC:3263), EIF2C2

Protein Information

Name	AGO2 (HGNC:3263)
Synonyms	EIF2C2
Function	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 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 up- regulate the translation of specific mRNAs under certain growth conditions. Binds to the AU element of the 3'-UTR of the TNF 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.

Cellular Location

Cytoplasm, P-body. Nucleus Note=Translational repression of mRNAs results in their recruitment to P-bodies. Translocation to the nucleus requires IMP8

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