

## Recombinant human Protein argonaute-2

Catalog No: #AP73144



Package Size: #AP73144-1 20ug #AP73144-2 100ug #AP73144-3 1mg

Orders: order@signalwayantibody.com

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## Description

Product Name	Recombinant human Protein argonaute-2
Brief Description	Recombinant Protein
Host Species	Yeast
Purification	Greater than 90% as determined by SDS-PAGE.
Immunogen Description	Expression Region:517-818aaSequence Info:Partial
Other Names	Argonaute RISC catalytic component 2
Accession No.	Q9UKV8
Uniprot	Q9UKV8
GeneID	27161;
Calculated MW	36.1 kDa
Tag Info	N-terminal 6xHis-tagged
Target Sequence	LVVVILPGKTPVYAEVKRVGDTVLMATQCVQMKNVQRTPQTLSNLCLKINVKLGGVNNILLPQGRPPVFQQ PVIFLGADVTHPPAGDGKKPSIAAVVGSMDAHPNRYCATVRVQQHRQEIIQDLAAMVRELLIQFYKSTRFKPTR IIFYRDGVSEGQFQQVLHHELLAIREACIKLEKDYQPGITFIVVQKRHHTRLFCTDKNERVGKSGNIPAGTTVDT KITHPTFEFDYLCSHAGIQGTSRPSHYHVLWDDNRFSSDELQILTYQLCHTYVRCTRSVSIPAPAYYAHLVAFR ARYHLV
Formulation	Tris-based buffer50% glycerol
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°C,-80°C. The shelf life of lyophilized form is 12 months at -20°C,-80°C.Notes:Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.

## Background

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 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 antisenRNA or agRNAs direct the transcriptional repression of complementary promoter regions

## References

DNA sequence and analysis of human chromosome 8. Nusbaum C., Mikkelsen T.S., Zody M.C., Asakawa S., Taudien S., Garber M., Kodira C.D., Schueler M.G., Shimizu A., Whittaker C.A., Chang J.L., Cuomo C.A., Dewar K., Fitzgerald M.G., Yang X., Allen N.R., Anderson S., Asakawa T., Blechschmidt K., Bloom T., Borowsky M.L., Butler J., Cook A., Corum B., DeArellano K., DeCaprio D., Dooley K.T., Dorris L. III, Engels R., Gloeckner G., Hafez N., Hagopian D.S., Hall J.L., Ishikawa S.K., Jaffe D.B., Kamat A., Kudoh J., Lehmann R., Lokitsang T., Macdonald P., Major J.E., Matthews C.D., Mauceli E., Menzel U., Mihalev A.H., Minoshima S., Murayama Y., Naylor J.W., Nicol R., Nguyen C., O'Leary S.B., O'Neill K., Parker S.C.J., Polley A., Raymond C.K., Reichwald K., Rodriguez J., Sasaki T., Schilhabel M., Siddiqui R., Smith C.L., Sneddon T.P., Talamas J.A., Tenzin P., Topham K., Venkataraman V., Wen G., Yamazaki S., Young S.K., Zeng Q., Zimmer A.R., Rosenthal A., Birren B.W., Platzer M., Shimizu N., Lander E.S. Nature 439:331-335(2006) Research Topic: Epigenetics and Nuclear Signaling

Note: This product is for in vitro research use only