**Product datasheet**

**Anti-Argonaute-2 antibody [EPR10411] ab186733**

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### Overview

**Product name**
Anti-Argonaute-2 antibody [EPR10411]

**Description**
Rabbit monoclonal [EPR10411] to Argonaute-2

**Host species**
Rabbit

**Tested applications**
Suitable for: ICC/IF, Flow Cyt, IP, WB, IHC-P

**Species reactivity**
Reacts with: Mouse, Rat, Human

**Immunogen**
within Human Argonaute-2 aa 350-450. The exact sequence is proprietary. Database link: Q9UKV8

**Positive control**
HeLa, MCF7, HepG2, C6 and RAW 264.7 cell lysates; Human cervix carcinoma and Mouse kidney tissues; HeLa and MCF7 cells.

**General notes**

Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

This product is a recombinant rabbit monoclonal antibody.

### Properties

**Form**
Liquid

**Storage instructions**

**Storage buffer**
Preservative: 0.01% Sodium azide
Constituents: 59% PBS, 40% Glycerol, 0.05% BSA

**Purity**
Protein A purified

**Clonality**
Monoclonal

**Clone number**
EPR10411

**Isotype**
IgG

### Applications
Function

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 agRNAs or antigene RNAs direct the transcriptional repression of complementary promoter regions.

Sequence similarities

Belongs to the argonaute family. Ago subfamily.
Contains 1 PAZ domain.
Contains 1 Piwi domain.

Domain

The Piwi domain may perform RNA cleavage by a mechanism similar to that of RNase H. However while RNase H utilizes a triad of Asp-Asp-Glu (DDE) for metal ion coordination, this protein appears to utilize a triad of Asp-Asp-His (DDH).

Post-translational modifications

Hydroxylated. 4-hydroxylation appears to enhance protein stability but is not required for miRNA-binding or endonuclease activity.

Cellular localization

Cytoplasm > P-body. Nucleus. Translational repression of mRNAs results in their recruitment to P-

Target
bodies. Translocation to the nucleus requires IMP8.

Images

All lanes: Anti-Argonaute-2 antibody [EPR10411] (ab186733) at 1/1000 dilution

Lane 1: HeLa cell lysate
Lane 2: MCF7 cell lysate
Lane 3: HepG2 cell lysate

Lysates/proteins at 20 µg per lane.

Secondary

All lanes: Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugate at 1/1000 dilution

Predicted band size: 97 kDa
Observed band size: 97 kDa

Immunohistochemical analysis of paraffin-embedded Human cervix carcinoma tissue labeling Ago2 / eIF2C2 with ab186733 at 1/100 dilution followed by prediluted HRP Polymer for Rabbit IgG. Counter stained with Hematoxylin.
Immunofluorescent analysis of 4% paraformaldehyde-fixed HeLa cells labeling Ago2 / eIF2C2 with ab186733 at 1/250 dilution followed by Goat anti rabbit IgG (Alexa Fluor® 488) secondary antibody at 1/200 dilution. Counter stained with Dapi.

Immunohistochemical analysis of paraffin-embedded Mouse kidney tissue labeling Ago2 / eIF2C2 with ab186733 at 1/100 dilution followed by prediluted HRP Polymer for Rabbit IgG. Counter stained with Hematoxylin.

**All lanes** : Anti-Ago2 antibody [EPR10411] (ab186733) at 1/1000 dilution

**Lane 1** : C6 cell lysate

**Lane 2** : RAW 264.7 cell lysate

Lysates/proteins at 10 µg per lane.

**Secondary**

**All lanes** : Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugate at 1/1000 dilution

**Predicted band size**: 97 kDa

**Observed band size**: 97 kDa
Flow cytometric analysis of 2% paraformaldehyde-fixed MCF7 cells labeling Ago2 / eIF2C2 with ab186733 at 1/60 dilution (red) compared to a Rabbit monoclonal IgG isotype control (green), followed by Goat anti rabbit IgG (FITC) secondary antibody at 1/150 dilution.

Western blot analysis of Ago2 / eIF2C2 in MCF7 cell lysate immunoprecipitated with ab186733 at 1/50 dilution.

Secondary antibody: Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugate at 1/1000 dilution.

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