abcam

ab250301

Anti-Y14 antibody [EPR13945(B)] - BSA and Azide free

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	EPR13945(B)
Purification technique	Affinity purification

Reactivity data

IP

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

Target data

See full target information RBM8A

Function	Required for pre-mRNA splicing as component of the spliceosome (PubMed:28502770, PubMed:29301961). Core component of the splicing-dependent multiprotein exon junction complex (EJC) deposited at splice junctions on mRNAs. The EJC is a dynamic structure consisting of core proteins and several peripheral nuclear and cytoplasmic associated factors that join the complex only transiently either during EJC assembly or during subsequent mRNA metabolism. The EJC marks the position of the exon-exon junction in the mature mRNA for the gene expression machinery and the core components remain bound to spliced mRNAs throughout all stages of mRNA metabolism thereby influencing downstream processes including nuclear mRNA export, subcellular mRNA localization, translation efficiency and nonsense-mediated mRNA decay (NMD). The MAGOH-RBM8A heterodimer inhibits the ATPase activity of EIF4A3, thereby trapping the ATP-bound EJC core onto spliced mRNA in a stable conformation. The MAGOH-RBM8A heterodimer interacts with the EJC key regulator PYM1 leading to EJC disassembly in the cytoplasm and translation enhancement of EJC-bearing spliced mRNAs by recruiting them to the ribosomal 48S preinitiation complex. Its removal from cytoplasmic mRNAs requires translation initiation from EJC-bearing spliced mRNAs. Associates preferentially with mRNAs produced by splicing. Does not interact with pre-mRNAs, introns, or mRNAs produced from intronless cDNAs. Associates with both nuclear mRNAs and newly exported cytoplasmic mRNAs. The MAGOH-RBM8A heterodimer is a component of the nonsense mediated decay (NMD) pathway. Involved in the splicing modulation of BCL2L1/Bcl-X (and probably other apoptotic genes); specifically inhibits formation of proapoptotic isoforms such as Bcl-X(S); the function is different from the established EJC assembly.

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	Do Not Freeze

Notes

ab250301 is the carrier-free version of ab181038.

Patented technology

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

What are the advantages of a recombinant monoclonal antibody?

This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply

- Animal-free batch production

For more information, read more on recombinant antibodies.

Conjugation ready
Our carrier-free antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications.

Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with 1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.

Compatibility
This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	Y14 also known as RBM8A is a protein integral to the exon junction complex (EJC) with an approximate mass of 18 kDa. It localizes mainly in the nucleus of cells. Y14 works with other proteins such as MAGOH serving a role in post-splicing mRNA regulation. Across various tissues Y14 shows expression but is particularly notable in tissues with high levels of mRNA processing like the brain and testis.
Biological function summary	Y14 functions in mRNA surveillance and quality control mechanisms. It forms part of the exon junction complex a multi-protein structure deposited on mRNA after splicing occurs. The component acts importantly in nonsense-mediated mRNA decay (NMD) a process that ensures defective mRNAs do not translate into dysfunctional proteins. Y14 contributes significantly to mRNA export from the nucleus binding to spliced mRNA and guiding them towards translation sites in the cytoplasm.
Pathways	Y14 plays a significant role in the nonsense-mediated mRNA decay pathway working in tandem with proteins such as UPF1 and UPF3. This pathway helps identify and degrade mRNA transcripts with premature stop codons therefore protecting cells from expressing truncated proteins that may disrupt normal cellular functions. Moreover Y14 is linked to the mRNA export pathway ensuring that only properly spliced messages reach the ribosome for translation.
Associated diseases and disorders	Y14 relevance appears in relation to neurodevelopmental disorders and certain cancers. Mutations or dysregulation of Y14 might contribute to conditions such as intellectual disability due to its involvement in mRNA surveillance that affects neuronal development. Additionally aberrant expression of Y14 has connections to breast cancer where it interacts with proteins involved in altered signaling pathways impacting cancer progression and metastasis.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

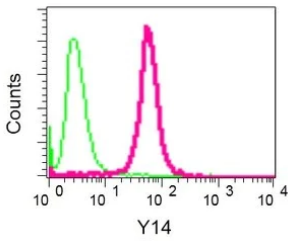
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

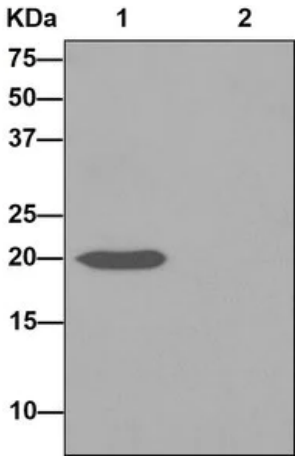
3 product images



Flow Cytometry (Intracellular) - Anti-Y14 antibody [EPR13945(B)] - BSA and Azide free (ab250301)

Y14 Flow Cytometry (Intracellular) staining using rabbit Anti-Y14 antibody

This data was developed using ab181038, the same antibody clone in a different buffer formulation.
Intracellular flow cytometric analysis of permeabilized Jurkat cells using ab181038 at a 1/10 dilution (red) or a rabbit IgG (negative) (green).

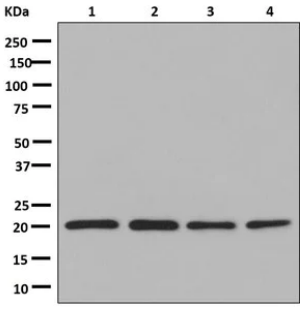


Immunoprecipitation - Anti-Y14 antibody [EPR13945(B)] - BSA and Azide free (ab250301)

This data was developed using ab181038, the same antibody clone in a different buffer formulation.
Western blot analysis on immunoprecipitation pellet from (Lane 1) Jurkat cell lysate or (Lane 2) 1XPBS (negative control) using ab181038 at a 1/10 dilution for IP and HRP-conjugated anti-rabbit IgG preferentially detecting the non-reduced form of rabbit IgG.

All lanes:
Immunoprecipitation - Anti-Y14 antibody [EPR13945(B)] (ab181038)

Predicted band size: 19 kDa



Western blot - Anti-Y14 antibody [EPR13945(B)] - BSA and Azide free (ab250301)

This data was developed using ab181038, the same antibody clone in a different buffer formulation.
All lanes:
Western blot - Anti-Y14 antibody [EPR13945(B)] (ab181038) at 1/1000 dilution

Lane 1:
HeLa cell lysate at 10 µg

Lane 2:
Jurkat cell lysates at 10 µg

Lane 3:
HepG2 cell lysate at 10 µg

Lane 4:
293T (Human embryonic kidney epithelial cell) cell lysate at 10 µg

Predicted band size: 19 kDa

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.