abcam

ab243153

Anti-Oct-2 antibody [9A2]

Recombinant

Key facts

Isotype	IgG2a
Host species	Rat
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	9A2
Purification technique	Ion exchange chromatography
Light chain type	kappa
Concentration	1.003 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Tested

Species	Mouse
Dilution info	0.403 µg/mL
Notes	-

Species	Human
Dilution info	0.403 µg/mL
Notes	-

Expected

Species	Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1.343 µg/mL
Notes	-

Expected

Species	Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

IHC-P

Tested

Species	Mouse
Dilution info	2.015 µg/mL
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Rat
Dilution info	2.015 µg/mL

Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Human
Dilution info	2.015 µg/mL
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Target data

See full target information Pou2f2

Function	Transcription factor that specifically binds to the octamer motif (5'-ATTTGCAT-3') (PubMed:1281152, PubMed:2011512). Regulates IL6 expression in B cells with POU2AF1 (PubMed:23045607). Regulates transcription in a number of tissues in addition to activating immunoglobulin gene expression. Modulates transcription transactivation by NR3C1, AR and PGR. Isoform OCT2.1. Activates octamer-containing promoters. Isoform OCT2.2. Activates octamer-containing promoters. Isoform OCT2.3. Activates octamer-containing promoters. Isoform OCT2.4. Represses some promoters and activate others. Isoform OCT2.5. Represses some promoters and activate others (PubMed:1281152, PubMed:2011512). Activates the U2 small nuclear RNA (snRNA) promoter (By similarity). Isoform OCT2.7. Unable to bind to the octamer motif, but can still activate the beta-casein gene promoter at low levels.

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

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.

Want a custom formulation?
This antibody clone is manufactured by Abcam. If you require a custom buffer formulation or conjugation for your experiments, please contact orders@abcam.com

Supplementary info

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

Activity summary	Oct-2 also known as 9A2 or POU2F2 is a transcription factor with a molecular mass of approximately 50-55 kDa. It belongs to the POU family of transcription factors. Oct-2 is expressed widely in various tissues but shows higher expression levels in B lymphocytes and the central nervous system. This protein binds to the octamer DNA sequence motif which regulates the activity of several genes involved in immune function and neural development. Its expression pattern and DNA binding properties make Oct-2 essential in controlling transcriptional activation and repression.
Biological function summary	Oct-2 regulates the expression of target genes by binding to octamer motifs within promoters and enhancers. In the immune system Oct-2 plays a significant role in B cell differentiation and maturation. It acts as an essential transcriptional regulator of immunoglobulin gene expression. In neural tissues Oct-2 influences genes involved in neural differentiation and development. Oct-2 often does not act alone; it forms part of multi-protein complexes interacting with coactivators and corepressors to modulate gene expression tightly.
Pathways	Oct-2 participates in critical transcriptional regulatory networks. It is important in the immune response pathway controlling genes involved in B cell activation and antibody production. Oct-2 also interacts with Oct-1 another member of the POU family in controlling gene expression patterns related to adaptive immunity. Additionally Oct-2 influences pathways involved in neural development working alongside transcription factors like Pax-5 to regulate genes critical for the growth and differentiation of neuronal cells.
Associated diseases and disorders	Oct-2 has been implicated in certain B cell-related malignancies and neurological disorders. Abnormal expression or mutation of Oct-2 can contribute to the development of lymphoma by altering the normal regulation of proliferation-related genes in B cells. Oct-2 also has connections to neurodevelopmental disorders where dysregulation of neural-specific genes controlled by Oct-2 may contribute to disease pathology. Understanding Oct-2's interaction with related proteins such as EBF1 in these disorders provides insights into the complex genetic regulation involved in these conditions.

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.

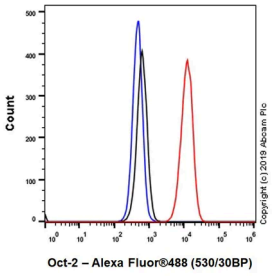
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In the unlikely event of one of our products not working as expected, you are covered by our product promise.

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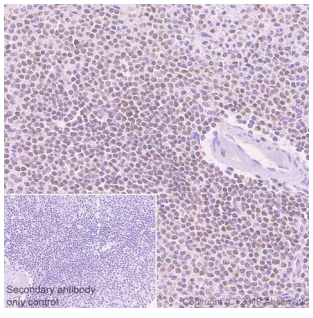
6 product images



Flow Cytometry (Intracellular) - Anti-Oct-2 antibody [9A2] (ab243153)

Oct-2 Flow Cytometry (Intracellular) staining using rat Anti-Oct-2 antibody

Intracellular flow cytometric analysis of 4% paraformaldehyde-fixed, 90% methanol permeabilized Raji (Human Burkitt's lymphoma B lymphocyte) cell line labeling Oct-2 with ab243153 at 1.343µg/ml (red) compared withRat monclonal IgG (black) and an unlabeled control (cells without incubation with primary antibody and secondary antibody) (blue). Goat Anti-Rat IgG (Alexa Fluor® 488) (ab150157)at 1/2000 dilution was used as the secondary antibody.

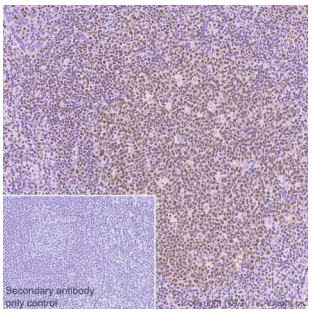


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Oct-2 antibody [9A2] (ab243153)

Oct-2 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rat Anti-Oct-2 antibody

Immunohistochemical analysis of paraffin-embedded human spleen tissue labeling Oct-2 with ab243153 at 2.015µg/ml, followed by ready to use Goat Anti-Rat IgG H&L (HRP polymer) (ab214882). Positive staining on human spleen (PMID: 11280769). The section was incubated with

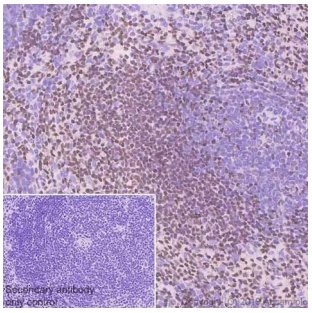
ab243153 for 30 mins at RT. The immunostaining staining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with hematoxylin.
Secondary antibody only control: Used PBS instead of primary antibody, followed by ready to use Goat Anti-Rat IgG H&L (HRP polymer) (ab214882).
Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution 2) for 20 mins.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Oct-2 antibody [9A2] (ab243153)

Oct-2 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rat Anti-Oct-2 antibody

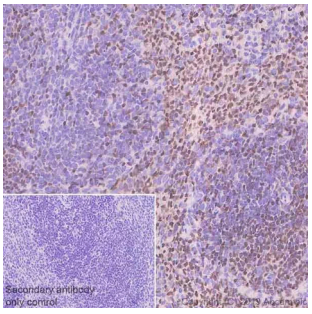
Immunohistochemical analysis of paraffin-embedded human tonsil tissue labeling Oct-2 with ab243153 at 2.015µg/ml, followed by ready to use Goat Anti-Rat IgG H&L (HRP polymer) (ab214882). Positive staining on human tonsil (PMID: 11280769). The section was incubated with ab243153 for 30 mins at RT. The immunostaining staining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with hematoxylin.
Secondary antibody only control: Used PBS instead of primary antibody, followed by ready to use Goat Anti-Rat IgG H&L (HRP polymer) (ab214882).
Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution 2) for 20 mins.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Oct-2 antibody [9A2] (ab243153)

Oct-2 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rat Anti-Oct-2 antibody

Immunohistochemical analysis of paraffin-embedded mouse spleen tissue labeling Oct-2 with ab243153 at 2/015µg/ml, followed by ready to use Goat Anti-Rat IgG H&L (HRP polymer) (ab214882). Positive staining on mouse spleen (PMID: 11280769). The section was incubated with ab243153 for 30 mins at RT. The immunostaining staining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with hematoxylin.
Secondary antibody only control: Used PBS instead of primary antibody, followed by ready to use Goat Anti-Rat IgG H&L (HRP polymer) (ab214882).
Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution 2) for 20 mins.

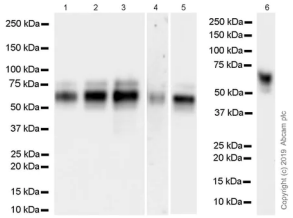


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Oct-2 antibody [9A2] (ab243153)

Oct-2 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rat Anti-Oct-2 antibody

Immunohistochemical analysis of paraffin-embedded rat spleen tissue labeling Oct-2 with ab243153 at 2.015µg/ml, followed by ready to use Goat Anti-Rat IgG H&L (HRP polymer) (ab214882). Positive staining on rat spleen (PMID: 11280769). The section was incubated with ab243153 for 30 mins at RT. The immunostaining staining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with hematoxylin.
Secondary antibody only control: Used PBS instead of primary antibody, followed by ready to use Goat Anti-Rat IgG H&L (HRP polymer) (ab214882).

Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution 2) for 20 mins.



Western blot - Anti-Oct-2 antibody [9A2] (ab243153)

Oct-2 Western blot staining using rat Anti-Oct-2 antibody

The molecular weight observed is consistent with what has been described in the literature (PMID: 3265124).
Exposure times: Lanes 1-3: 3 seconds; Lane 4: 3 minutes; Lane 5: 15 seconds; Lane 6: 44 seconds.

Blocking/Dilution buffer: 5% NFDM/TBST.

All lanes:
Western blot - Anti-Oct-2 antibody [9A2] (ab243153) at 1/1000 dilution

Lane 1:
Ramos (human Burkitt's lymphoma B lymphocyte), whole cell lysate at 20 µg

Lane 2:
Raji (human Burkitt's lymphoma B lymphocyte), whole cell lysate at 20 µg

Lane 3:
Daudi (human Burkitt's lymphoma lymphoblast), whole cell lysate at 20 µg

Lane 4:
A20 (mouse reticulum sarcoma B lymphocyte), whole cell lysate at 20 µg

Lane 5:
Human tonsil tissue lysate at 20 µg

Lane 6:
Mouse spleen tissue lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rat IgG H&L (HRP) (ab205720) at 1/10000 dilution

Predicted band size: 51 kDa

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