

Product datasheet

Anti-Oct4 antibody ab18976

★★★★☆ 11 Abreviews 70 References 5 Images

Overview

Product name	Anti-Oct4 antibody
Description	Rabbit polyclonal to Oct4
Host species	Rabbit
Specificity	The antibody reacts with 45 kDa Oct4 (also designated Oct3A) and in a less extent 33 kDa Oct3B from human, mouse, and rat samples.
Tested applications	Suitable for: IHC-Fr, WB, IP, ICC/IF, Flow Cyt, IHC-P
Species reactivity	Reacts with: Mouse, Rat, Human, Pig, Macaque monkey Predicted to work with: Chimpanzee 
Immunogen	Synthetic peptide (the amino acid sequence is considered to be commercially sensitive). (Peptide available as ab52110)
Positive control	Rat kidney tissue lysate can be used as a positive control.

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C. Avoid freeze / thaw cycle.
Storage buffer	pH: 7.20 Preservative: 0.01% Thimerosal (merthiolate) Constituents: 69% PBS, 30% Glycerol, 0.5% BSA
Purity	Protein A purified
Purification notes	Affinity Purified
Clonality	Polyclonal
Isotype	IgG

Applications

Our [Abpromise guarantee](#) covers the use of **ab18976** in the following tested applications.

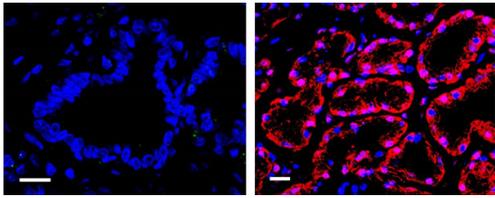
The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
IHC-Fr	★★★★☆	Use a concentration of 20 µg/ml.
WB	★★★★☆	Use a concentration of 1 - 2 µg/ml. Predicted molecular weight: 45 kDa. Can be blocked with Oct4 peptide (ab52110) .
IP		Use a concentration of 20 µg/ml.
ICC/IF		Use at an assay dependent concentration. PubMed: 19736565
Flow Cyt	★★★★★	Use at an assay dependent concentration. PubMed: 17719011 ab171870 - Rabbit polyclonal IgG, is suitable for use as an isotype control with this antibody.
IHC-P	★★★★☆	1/100. Perform enzymatic antigen retrieval before commencing with IHC staining protocol.

Target

Function	Transcription factor that binds to the octamer motif (5'-ATTTGCAT-3'). Forms a trimeric complex with SOX2 on DNA and controls the expression of a number of genes involved in embryonic development such as YES1, FGF4, UTF1 and ZFP206. Critical for early embryogenesis and for embryonic stem cell pluripotency.
Tissue specificity	Expressed in developing brain. Highest levels found in specific cell layers of the cortex, the olfactory bulb, the hippocampus and the cerebellum. Low levels of expression in adult tissues.
Sequence similarities	Belongs to the POU transcription factor family. Class-5 subfamily. Contains 1 homeobox DNA-binding domain. Contains 1 POU-specific domain.
Developmental stage	Highly expressed in undifferentiated embryonic stem cells and expression decreases gradually after embryoid body (EB) formation.
Domain	The POU-specific domain mediates interaction with PKM2.
Post-translational modifications	Sumoylation enhances the protein stability, DNA binding and transactivation activity. Sumoylation is required for enhanced YES1 expression. Ubiquitinated; undergoes 'Lys-63'-linked polyubiquitination by WWP2 leading to proteasomal degradation.
Cellular localization	Nucleus. Expressed in a diffuse and slightly punctuate pattern.

Images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Oct4 antibody (ab18976)

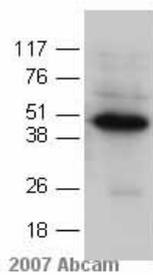
Image from Hassiotou et al., *Front Oncol.* 2013 3:79. Figure 1A doi: 10.3389/fonc.2013.00079. eCollection 2013.

Immunohistochemistry analysis of paraffin-embedded human breast tissues (5 μm thick) labeling Oct4 with ab18976 at 1/100 dilution.

Tissues were rehydrated in deionized water and incubated in PBS prior to permeabilization in 0.1% PBS-TritonX 100 and overnight incubation with ab18976 in a humid chamber. Washing in PBS and secondary antibody (Alexa Fluor[®]) incubation for 2h was followed by a final wash and mounting.

Blue: DAPI stain for nuclei.

Minimal and mostly cytoplasmic expression was seen in the normal resting breast (left panel). During normal lactation (right panel), OCT4 was upregulated and expressed in both the nucleus and cytoplasm.



Western blot - Anti-Oct4 antibody (ab18976)

This image is courtesy of an anonymous Abreview

Anti-Oct4 antibody (ab18976) at 1/500 dilution
+ mouse embryonic stem cell whole cell lysate
at 100 µg/ml

Secondary

HRP conjugated goat anti-rabbit

Developed using the ECL technique.

Performed under reducing conditions.

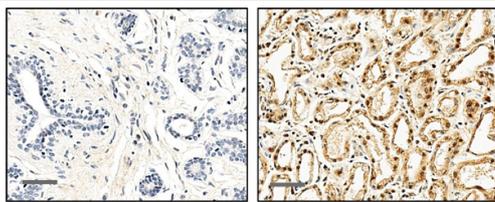
Predicted band size: 45 kDa

Observed band size: 45 kDa

Additional bands at: 25 kDa (possible non-specific binding), 60 kDa (possible non-specific binding)

Exposure time: 1 minute

The blot was blocked with 5% milk for 1 hour at RT and incubated with the primary antibody for 16 hours at 4°C.

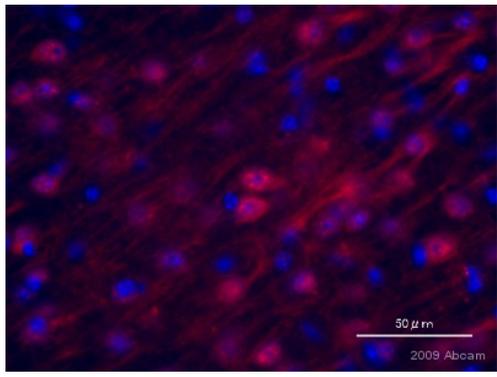


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Oct4 antibody (ab18976)

Image from Hassiotou et al., *Front Oncol.* 2013 3:79. Figure 1A doi: 10.3389/fonc.2013.00079. eCollection 2013.

Immunohistochemical analysis of paraffin embedded Human breast tissues (5 µm thick) labeling Oct4 with ab18976 at 1/100 to 1/200 dilution. Heat induced epitope retrieval was performed at 100°C for 30 min. Slides were counterstained with hematoxylin.

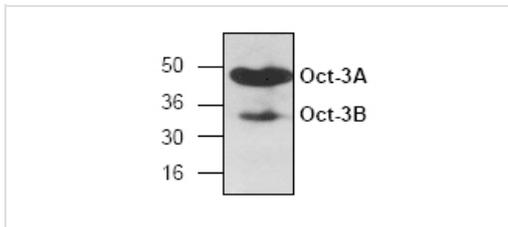
Minimal and mostly cytoplasmic expression was seen in the normal resting breast (left panel). During normal lactation (right panel), OCT4 was upregulated and expressed in both the nucleus and cytoplasm.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Oct4 antibody (ab18976)

This image is courtesy of an anonymous Abreview

ab18976 at 1/100 dilution staining Oct-4 in mouse brain tissue by immunohistochemistry (formalin/PFA-fixed paraffin-embedded sections). Sections were paraformaldehyde fixed prior to blocking in 5% BSA for 1 hour at 25°C and then incubated with ab18976 for 12 hours at 4°C. A Cy3 conjugated donkey polyclonal to rabbit Ig, diluted 1/500, was used as the secondary antibody.



Western blot - Anti-Oct4 antibody (ab18976)

Anti-Oct4 antibody (ab18976) at 0.5 μg/ml +
Lysates prepared from rat kidney tissue.

Predicted band size: 45 kDa

The antibody reacts with 45 kDa Oct4 (also designated Oct-3A) and in a less extent 33 kDa Oct-3B from human, mouse, and rat samples.

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