

# Anti-Oct4 antibody [EPR2054] - BSA and Azide free ab222233

Recombinant RabMAb

[4 References](#) [14 Images](#)

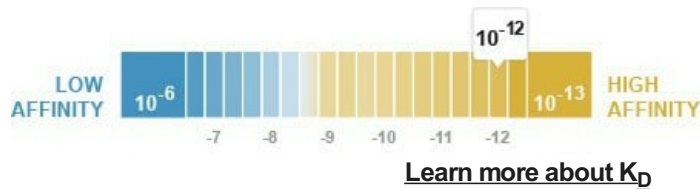
### Overview

<b>Product name</b>	Anti-Oct4 antibody [EPR2054] - BSA and Azide free
<b>Description</b>	Rabbit monoclonal [EPR2054] to Oct4 - BSA and Azide free
<b>Host species</b>	Rabbit
<b>Tested applications</b>	<b>Suitable for:</b> IP, WB, IHC-P, ChIC/CUT&RUN-seq <b>Unsuitable for:</b> ICC/IF
<b>Species reactivity</b>	<b>Reacts with:</b> Human
<b>Immunogen</b>	Synthetic peptide. This information is proprietary to Abcam and/or its suppliers.
<b>Positive control</b>	WB: NCCIT and HeLa whole cell lysate ( <a href="#">ab150035</a> ). IHC-P: Human seminoma and ovarian dysgerminoma tissue. IP: NCCIT whole cell lysate. ChIC/CUT&RUN-Seq: NCCIT cells.
<b>General notes</b>	<p>ab222233 is the carrier-free version of <a href="#">ab109183</a>.</p> <p>Our <b>carrier-free</b> antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. The carrier-free buffer and high concentration allow for increased conjugation efficiency.</p> <p>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.</p> <p>Use our <b>conjugation kits</b> for antibody conjugates that are ready-to-use in as little as 20 minutes with &lt;1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.</p> <p>This product is compatible with the Maxpar<sup>®</sup> Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar<sup>®</sup> is a trademark of Fluidigm Canada Inc.</p> <p>This product is a recombinant monoclonal antibody, which offers several advantages including:</p> <ul style="list-style-type: none"> <li>- High batch-to-batch consistency and reproducibility</li> <li>- Improved sensitivity and specificity</li> <li>- Long-term security of supply</li> <li>- Animal-free production</li> </ul> <p>For more information <a href="#">see here</a>.</p> <p>Our RabMAb<sup>®</sup> technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to <a href="#">RabMAb<sup>®</sup> patents</a>.</p>

Mouse, Rat: We have preliminary internal testing data to indicate this antibody may not react with these species. Please contact us for more information.

## Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C. Do Not Freeze.
Dissociation constant ( $K_D$ )	$K_D = 5.00 \times 10^{-12}$ M



Storage buffer	pH: 7.20 Constituent: PBS
Carrier free	Yes
Purity	Protein A purified
Clonality	Monoclonal
Clone number	EPR2054
Isotype	IgG

## Applications

**The Abpromise guarantee** Our **Abpromise guarantee** covers the use of ab222233 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
IP		Use at an assay dependent concentration.
WB		Use at an assay dependent concentration. Predicted molecular weight: 39 kDa.
IHC-P		Use at an assay dependent concentration. Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.
ChIC/CUT&RUN-seq		Use at an assay dependent concentration.

**Application notes** Is unsuitable for ICC/IF.

## Target

**Function** Transcription factor that binds to the octamer motif (5'-ATTGTCAT-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

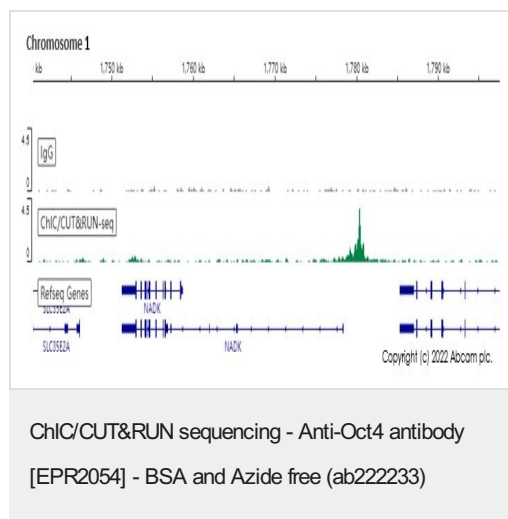
Sumoylation enhances the protein stability, DNA binding and transactivation activity. Sumoylation is required for enhanced YES1 expression.

Ubiquitinated; undergoes 'Lys-63'-linked polyubiquitination by WWP2 leading to proteasomal degradation.

### Cellular localization

Nucleus. Expressed in a diffuse and slightly punctuate pattern.

## Images

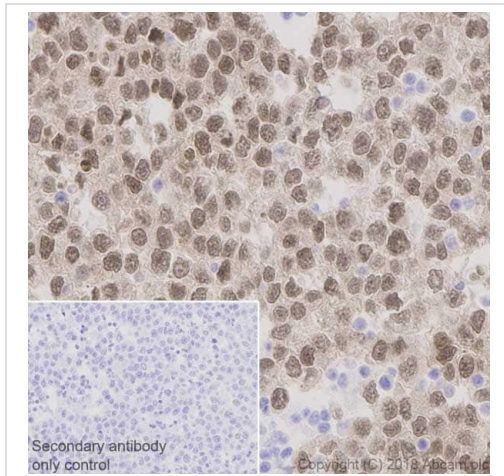


ChIC/CUT&RUN was performed using a pAG-MNase at a final concentration of 700 ng/mL, 2 x 10<sup>5</sup> NCCIT (Human pluripotent embryonic carcinoma cell line) cells and 5 µg of [ab109183](#) [EPR2054]. The resulting DNA was sequenced on the Illumina NovaSeq 6000 to a depth of 10 million reads. The negative IgG control [ab172730](#) is also shown.

Additional screenshots of mapped reads can be downloaded [here](#).

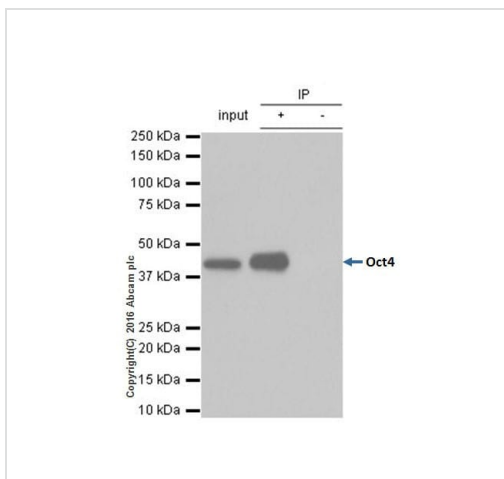
The University of Geneva owns patents relevant to ChIC (Chromatin Immuno-Cleavage) methods.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide ([ab109183](#)).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Oct4 antibody [EPR2054]  
- BSA and Azide free (ab222233)

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of Human seminoma tissue sections labeling Oct4 - with Purified **ab109183** at 1:600 dilution (1 µg/ml). Heat mediated antigen retrieval was performed using **ab93684** (Tris/EDTA buffer, pH 9.0) ImmunoHistoProbe one step HRP Polymer (ready to use) was used as the secondary antibody. Negative control: PBS instead of the primary antibody. Hematoxylin was used as a counterstain. This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (**ab109183**).



Immunoprecipitation - Anti-Oct4 antibody [EPR2054]  
- BSA and Azide free (ab222233)

Unpurified **ab109183** at 1/50 immunoprecipitating Oct4 in NCCIT (human pluripotent embryonal carcinoma) whole cell lysate observed at 39 KDa (lanes 1 and 2).

Lane 1 (input): NCCIT whole cell lysate, 10µg

Lane 2 (+): **ab109183** + NCCIT whole cell lysate

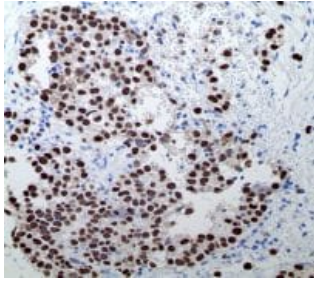
Lane 3 (-): Rabbit monoclonal IgG (**ab172730**) instead of **ab109183** in NCCIT whole cell lysate

For western blotting, **ab109183** at 1/1000 dilution and **ab131366** VeriBlot for IP (HRP) was used for detection antibody at 1/10000 dilution.

Blocking buffer and concentration: 5% NFDM/TBST.

Diluting buffer and concentration: 5% NFDM /TBST.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (**ab109183**).

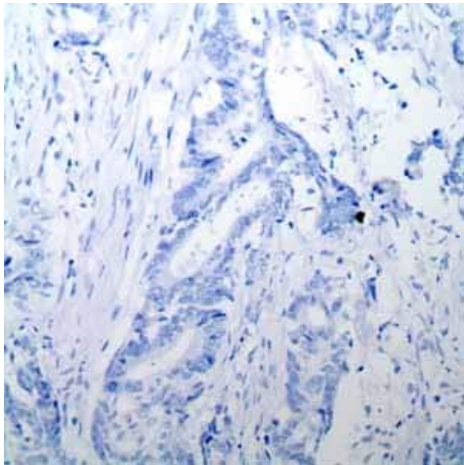


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Oct4 antibody [EPR2054]  
- BSA and Azide free (ab222233)

Unpurified **ab109183**, at 1:500 dilution, staining Oct4 in paraffin-embedded Human ovarian dysgerminoma by Immunohistochemistry.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (**ab109183**).

Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

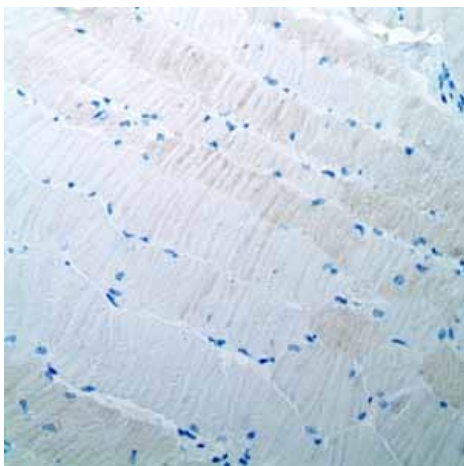


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Oct4 antibody [EPR2054]  
- BSA and Azide free (ab222233)

Unpurified **ab109183** showing negative staining in Colonic adenocarcinoma tissue.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (**ab109183**).

Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



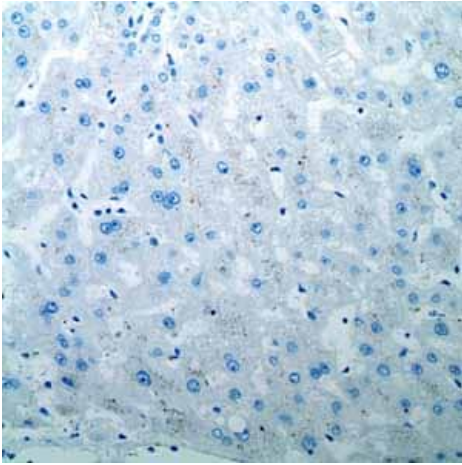
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Oct4 antibody [EPR2054]  
- BSA and Azide free (ab222233)

Unpurified **ab109183** showing negative staining in Skeletal muscle tissue.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (**ab109183**).

Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



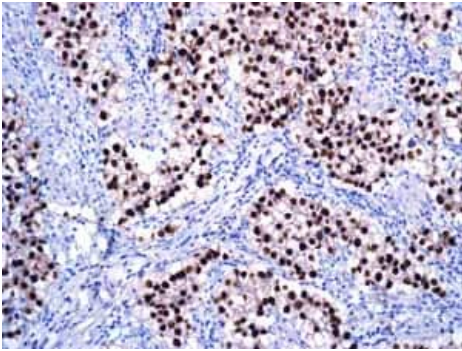


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Oct4 antibody [EPR2054]  
- BSA and Azide free (ab222233)

Unpurified **ab109183** showing negative staining in Normal liver tissue.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (**ab109183**).

Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

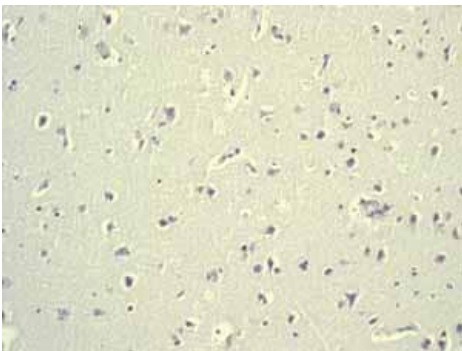


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Oct4 antibody [EPR2054]  
- BSA and Azide free (ab222233)

Unpurified **ab109183** showing positive staining in Seminoma tissue.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (**ab109183**).

Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

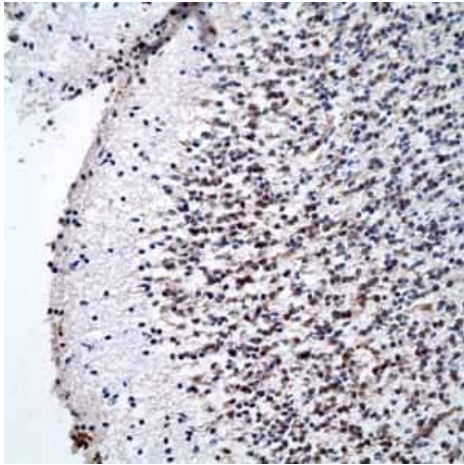


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Oct4 antibody [EPR2054]  
- BSA and Azide free (ab222233)

Unpurified **ab109183** showing negative staining in Normal brain tissue.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (**ab109183**).

Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

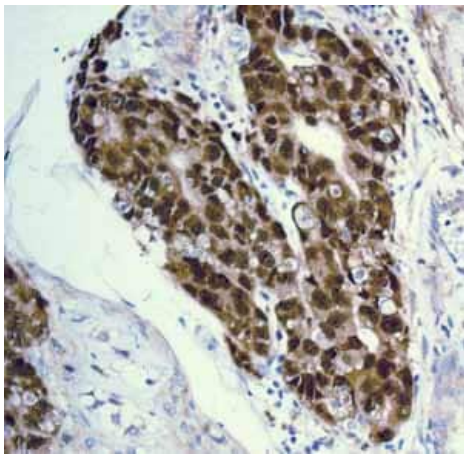


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Oct4 antibody [EPR2054]  
- BSA and Azide free (ab222233)

Unpurified **ab109183** showing positive staining in Fetal brain tissue.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (**ab109183**).

Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

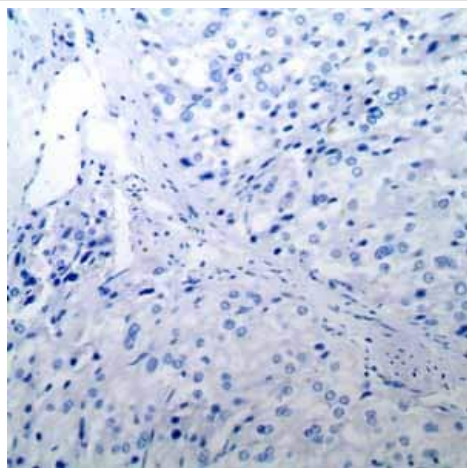


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Oct4 antibody [EPR2054]  
- BSA and Azide free (ab222233)

Unpurified **ab109183** showing positive staining in Embryonal carcinoma tissue.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (**ab109183**).

Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

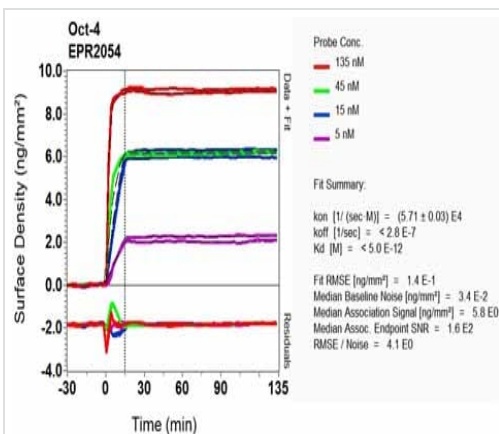


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Oct4 antibody [EPR2054]  
- BSA and Azide free (ab222233)

Unpurified **ab109183** showing negative staining in Hepatocellular carcinoma tissue.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (**ab109183**).

Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Oct-4 SPR sensorgram - Anti-Oct4 antibody [EPR2054] -  
BSA and Azide free (ab222233)

Equilibrium dissociation constant ( $K_D$ )

Learn more about  $K_D$

[Click here to learn more about  \$K\_D\$](#)

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (**ab109183**).

### Why choose a recombinant antibody?



**Research with confidence**  
Consistent and reproducible results



**Long-term and scalable supply**  
Recombinant technology



**Success from the first experiment**  
Confirmed specificity



**Ethical standards compliant**  
Animal-free production

Anti-Oct4 antibody [EPR2054] - BSA and Azide free (ab222233)



**Please note:** All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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