

Product datasheet

Anti-Oct4 antibody [EPR2054] α b109183

Recombinant RabMAb

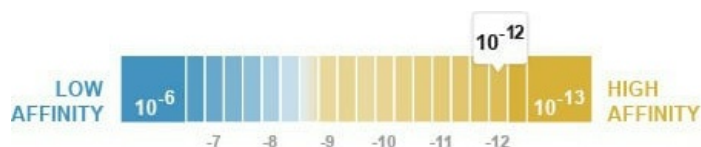
★★★★★ [1 Abreviews](#) [39 References](#) [16 Images](#)

Overview

Product name	Anti-Oct4 antibody [EPR2054]
Description	Rabbit monoclonal [EPR2054] to Oct4
Host species	Rabbit
Tested applications	Suitable for: ChIC/CUT&RUN-seq, WB, IP, IHC-P Unsuitable for: ICC/IF
Species reactivity	Reacts with: Human
Immunogen	Synthetic peptide. This information is proprietary to Abcam and/or its suppliers.
Positive control	WB: NCCIT and HeLa whole cell lysate (ab150035). IHC-P: Human seminoma and ovarian dysgerminoma tissue. IP: NCCIT whole cell lysate. ChIC/CUT&RUN-Seq: NCCIT cells.
General notes	<p>This product is a recombinant monoclonal antibody, which offers several advantages including:</p> <ul style="list-style-type: none"> - High batch-to-batch consistency and reproducibility - Improved sensitivity and specificity - Long-term security of supply - Animal-free production <p>For more information see here.</p> <p>Our RabMAb[®] technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb[®] patents.</p> <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.</p>

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 long term. Avoid freeze / thaw cycle.
Dissociation constant (K_D)	K _D = 5.00 x 10 ⁻¹² M



[Learn more about K_D](#)

Storage buffer	pH: 7.20 Preservative: 0.01% Sodium azide Constituents: 40% Glycerol, 59% PBS, 0.05% BSA
Purity	Protein A purified
Clonality	Monoclonal
Clone number	EPR2054
Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab109183 in the following tested applications. The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

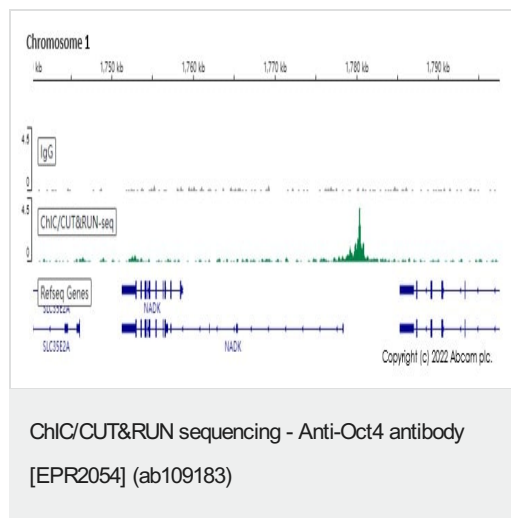
Application	Abreviews	Notes
ChIC/CUT&RUN-seq		Use at an assay dependent concentration. 5 µg
WB	★★★★★ (1)	1/1000 - 1/10000. Predicted molecular weight: 39 kDa.
IP		1/10 - 1/100.
IHC-P		1/500 - 1/1000. Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol. See IHC antigen retrieval protocols .

Application notes Is unsuitable for ICC/IF.

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.

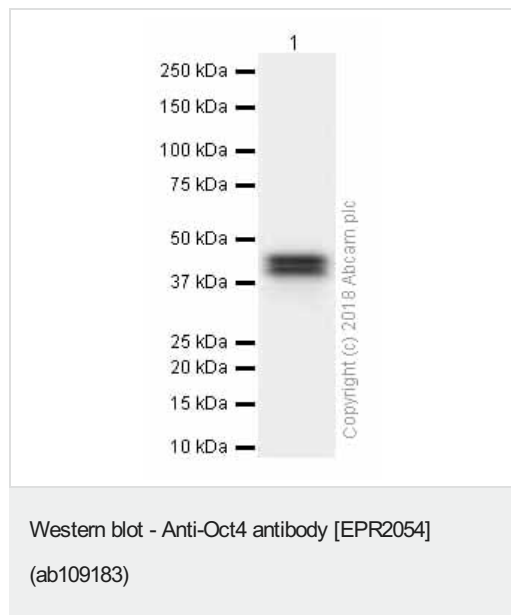
Images



ChIC/CUT&RUN was performed using a pAG-MNase at a final concentration of 700 ng/mL, 2×10^5 NCCIT (Human pluripotent embryonic carcinoma cell line) cells and 5 μ g 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.



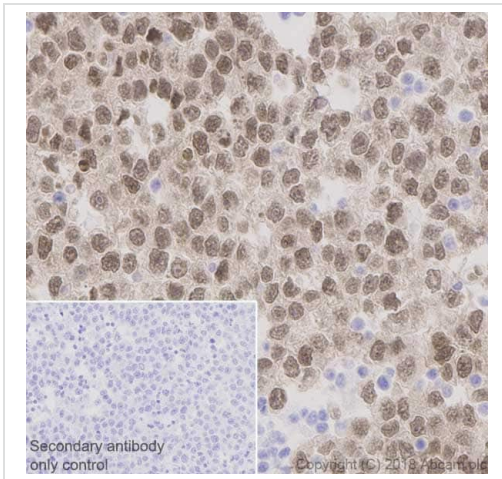
Anti-Oct4 antibody [EPR2054] (ab109183) at 0.06 μ g/ml (purified) + NCCIT (Human pluripotent embryonic carcinoma epithelial cell) whole cell lysates at 15 μ g

Secondary

Goat Anti-Rabbit IgG H&L (HRP) (**ab97051**) at 1/20000 dilution

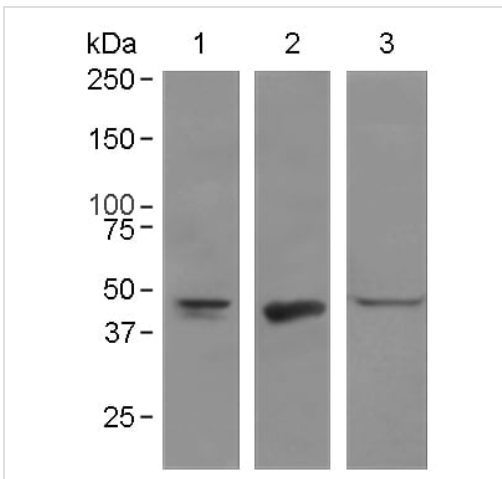
Predicted band size: 39 kDa

Blocking and diluting buffer: 5% NFDM/TBST.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Oct4 antibody [EPR2054] (ab109183)

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



Western blot - Anti-Oct4 antibody [EPR2054] (ab109183)

All lanes : Anti-Oct4 antibody [EPR2054] (ab109183) at 1/1000 dilution (Unpurified)

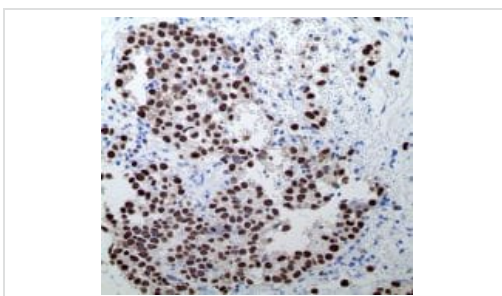
Lane 1 : Seminoma lysate

Lane 2 : NCCIT cell lysate

Lane 3 : HeLa cell lysate

Lysates/proteins at 10 µg per lane.

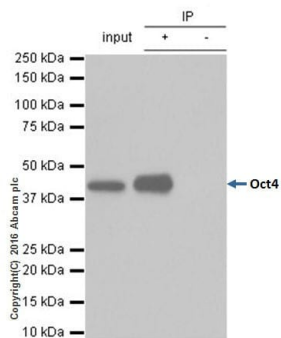
Predicted band size: 39 kDa



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Oct4 antibody [EPR2054] (ab109183)

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

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



Immunoprecipitation - Anti-Oct4 antibody [EPR2054]
(ab109183)

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, 10 μ g

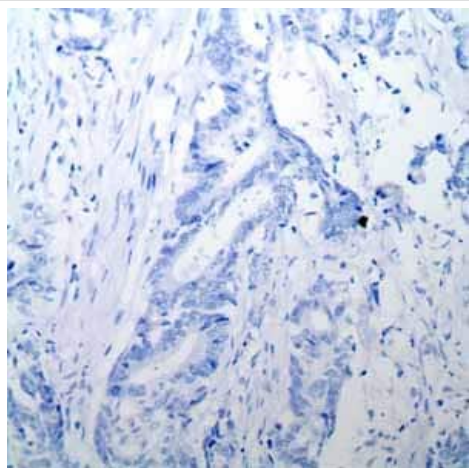
Lane 2 (+): ab109183 + NCCIT whole cell lysate

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

For western blotting, ab109183 at 1/1000 dilution and VeriBlot for IP Detection Reagent (HRP) (**ab131366**), was used for detection at 1/10,000 dilution.

Blocking buffer and concentration: 5% NFDm/TBST.

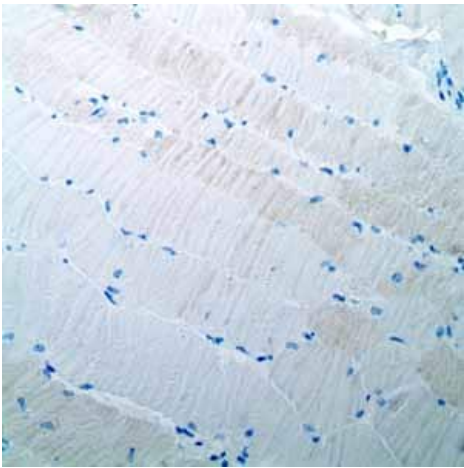
Diluting buffer and concentration: 5% NFDm /TBST.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Oct4 antibody [EPR2054]
(ab109183)

Unpurified ab109183 showing negative staining in Colonic adenocarcinoma tissue.

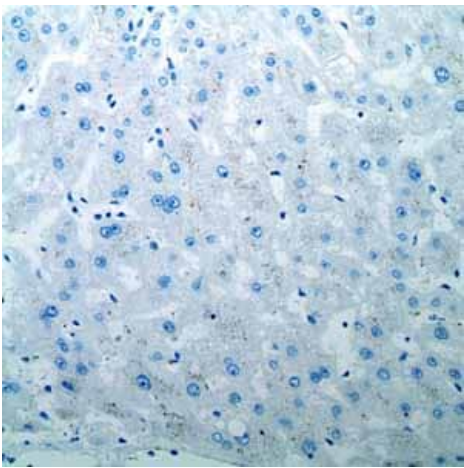
Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Oct4 antibody [EPR2054] (ab109183)

Unpurified ab109183 showing negative staining in Skeletal muscle tissue.

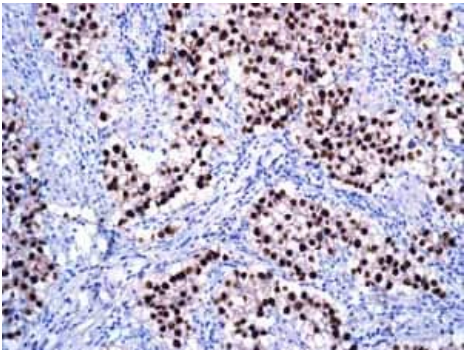
Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Oct4 antibody [EPR2054] (ab109183)

Unpurified ab109183 showing negative staining in Normal liver tissue.

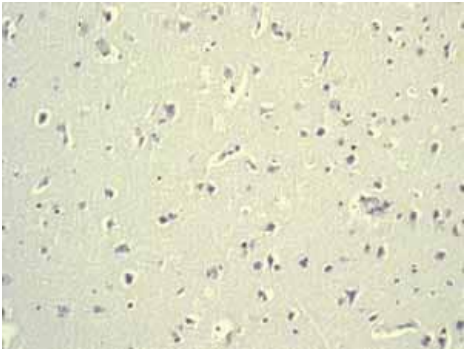
Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Oct4 antibody [EPR2054] (ab109183)

Unpurified ab109183 showing positive staining in Seminoma tissue.

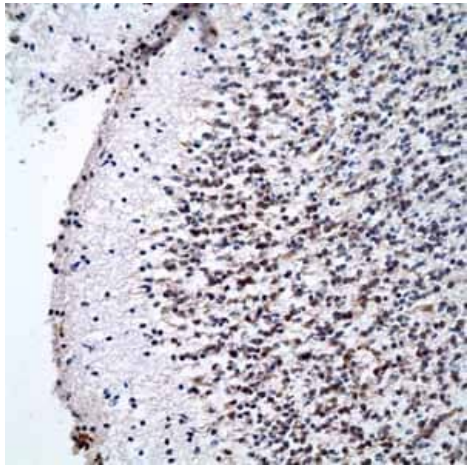
Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Oct4 antibody [EPR2054] (ab109183)

Unpurified ab109183 showing negative staining in Normal brain tissue.

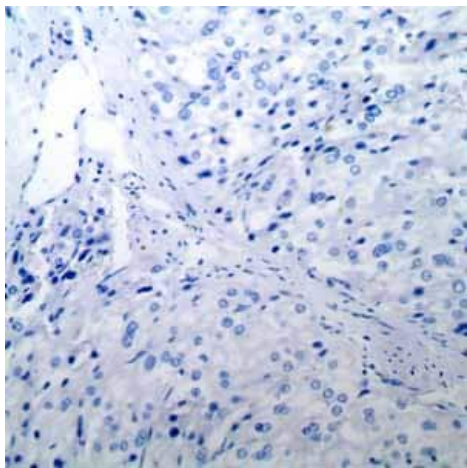
Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Oct4 antibody [EPR2054] (ab109183)

Unpurified ab109183 showing positive staining in Fetal brain tissue.

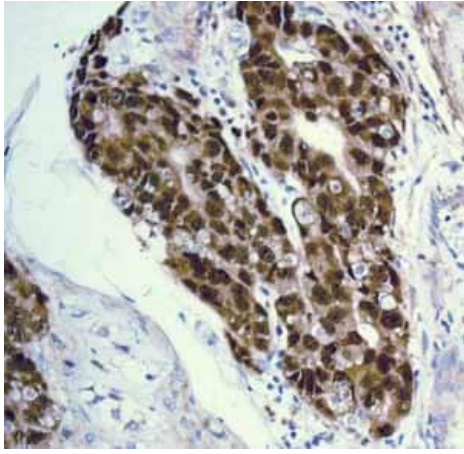
Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Oct4 antibody [EPR2054] (ab109183)

Unpurified ab109183 showing negative staining in Hepatocellular carcinoma tissue.

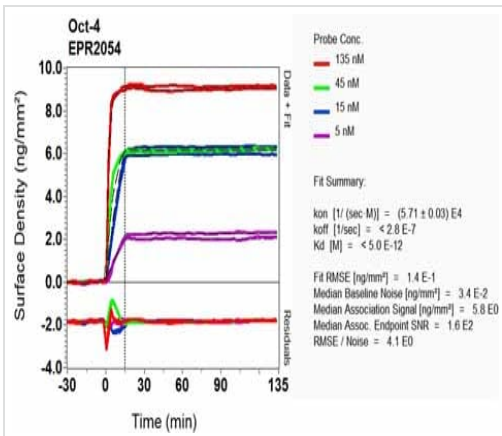
Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Oct4 antibody [EPR2054] (ab109183)

Unpurified ab109183 showing positive staining in Embryonal carcinoma tissue.

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



OIR-D Scanning - Anti-Oct4 antibody [EPR2054] (ab109183)

Equilibrium dissociation constant (K_D)

Learn more about K_D

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

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] (ab109183)

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