

Rabbit Anti-Oct4 antibody

SL0830R

Product Name	Oct4
Chinese Name	胚胎 Stem cells 关键蛋白抗体
Alias	MGC22487; Oct 3; Oct 4; Oct-3; Oct-4; OCT3; Oct4; Octamer binding protein 3; Octamer-binding protein 3; Octamer binding protein 4; Octamer binding transcription factor 3; Octamer-binding transcription factor 3; Octamer-4; POU domain transcription factor OCT4; OTF3; OTF4; OTF 3; OTF 4; OTF-3; POU class 5 homeobox 1; POU domain, class 5, transcription factor 1; POU domain class 5 transcription factor 1; PO5F1_HUMAN; POU type homeodomain containing DNA binding protein ; POU5F1.
Research Area	Cell biology Chromatin and nuclear signals Signal transduction Stem cells Cyclin transcriptional regulatory factor Cell type markers Epigenetics
Immunogen Species	Rabbit
Clonality	Polyclonal
React Species	Human, Mouse, Rat, (predicted: Dog, Pig, Cow,)
Applications	WB=1:500-2000,Flow-Cyt=1ug/Test (Paraffin sections need antigen repair not yet tested in other applications. optimal dilutions/concentrations should be determined by the end user.
Theoretical molecular weight	39kDa
Cellular localization	The nucleus
Form	Liquid
Concentration	1mg/ml
immunogen	KLH conjugated synthetic peptide derived from human OCT4: 201-300/360
Lsotype	IgG
Purification	affinity purified by Protein A
Buffer Solution	1M TBS(pH7.4) with 1% BSA, 3% Proclin300 and 50% Glycerol.
Storage	Shipped at 4°C. Store at -20 °C for one year. Avoid repeated freeze/thaw cycles.
Attention	This product as supplied is intended for research use only, not for use in

human, therapeutic or diagnostic applications.

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Expression of the POU-domain transcription factor Octamer-4 (Oct-4) is widely regarded as a hallmark of pluripotent stem cells. The relationship of Oct-4 to pluripotent stem cells is indicated by its tightly restricted expression to undifferentiated pluripotent stem cells. Upon differentiation to somatic lineages, the expression of Oct-4 disappears rapidly. Unlike the majority of pluripotent stem cell markers, the biological role of Oct-4 has been well characterized. Studies performed in mice point to the critical role of Oct-4 in the establishment and/or maintenance of pluripotent stem cells in an uncommitted state.

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.

Subunit:

Interacts with UBE2I and ZSCAN10. Interacts with PKM2. Interacts with WWP2.

Product Detail

Subcellular Location:

Nucleus.Note=Expressed in a diffuse and slightly punctuate pattern.

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.

Post-translational modifications:

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

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

ERK1/2-mediated phosphorylation at Ser-111 promotes nuclear exclusion and proteasomal degradation. Phosphorylation at Thr-235 and Ser-236 decrease DNA-binding and alters ability to activate transcription.

Similarity:

Belongs to the POU transcription factor family. Class-5 subfamily.

Contains 1 homeobox DNA-binding domain.

Contains 1 POU-specific domain.

SWISS:

Q01860

Gene ID:

5460

Database links:

[Entrez Gene: 282316](#) Cow

[Entrez Gene: 5460](#) Human

[Entrez Gene: 18999](#) Mouse

[Entrez Gene: 100127461](#) Pig

[Entrez Gene: 294562](#) Rat

[Omim: 164177](#) Human

[SwissProt: O97552](#) Cow

[SwissProt: Q01860](#) Human

[SwissProt: P20263](#) Mouse

[SwissProt: Q9TSV5](#) Pig

[Unigene: 249184](#) Human

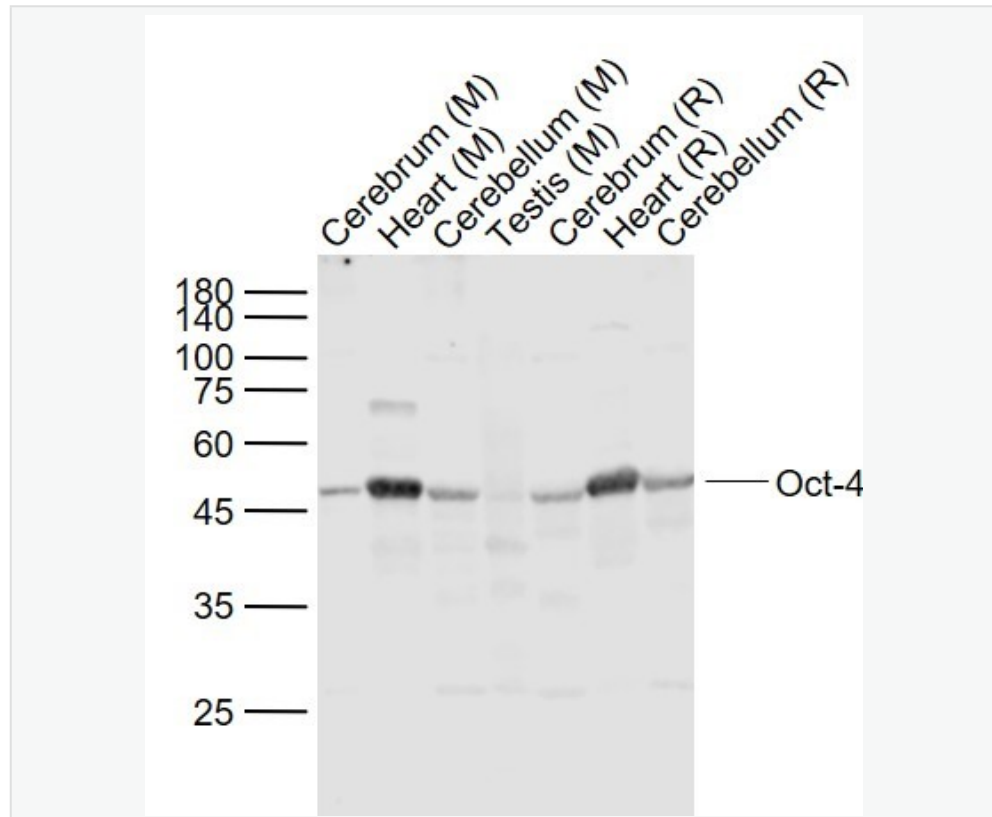
[Unigene: 632482](#) Human

[Unigene: 646545](#) Human

[Unigene: 17031](#) Mouse

[Unigene: 161748](#) Rat

Product Picture



Sample:

Lane 1: Cerebrum (Mouse) Lysate at 40 ug

Lane 2: Heart (Mouse) Lysate at 40 ug

Lane 3: Cerebellum (Mouse) Lysate at 40 ug

Lane 4: Testis (Mouse) Lysate at 40 ug

Lane 5: Cerebrum (Rat) Lysate at 40 ug

Lane 6: Heart (Rat) Lysate at 40 ug

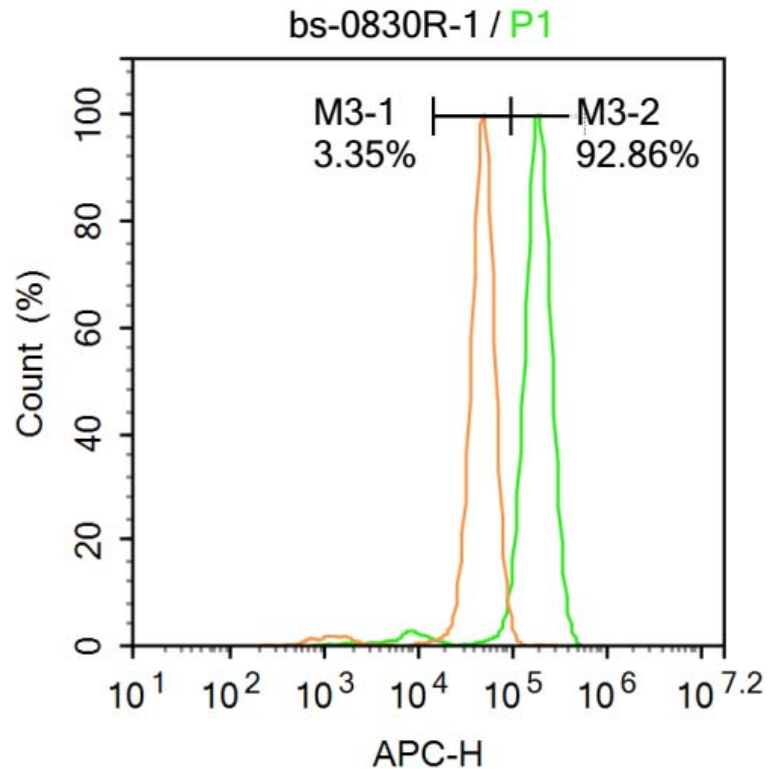
Lane 7: Cerebellum (Rat) Lysate at 40 ug

Primary: Anti-Oct4 (SL0830R) at 1/1000 dilution

Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution

Predicted band size: 45 kD

Observed band size: 47 kD



Blank control: Hela.

Primary Antibody (green line): Rabbit Anti-4-Oct antibody (SL0830R)

Dilution: 1 μ g /10⁶ cells;

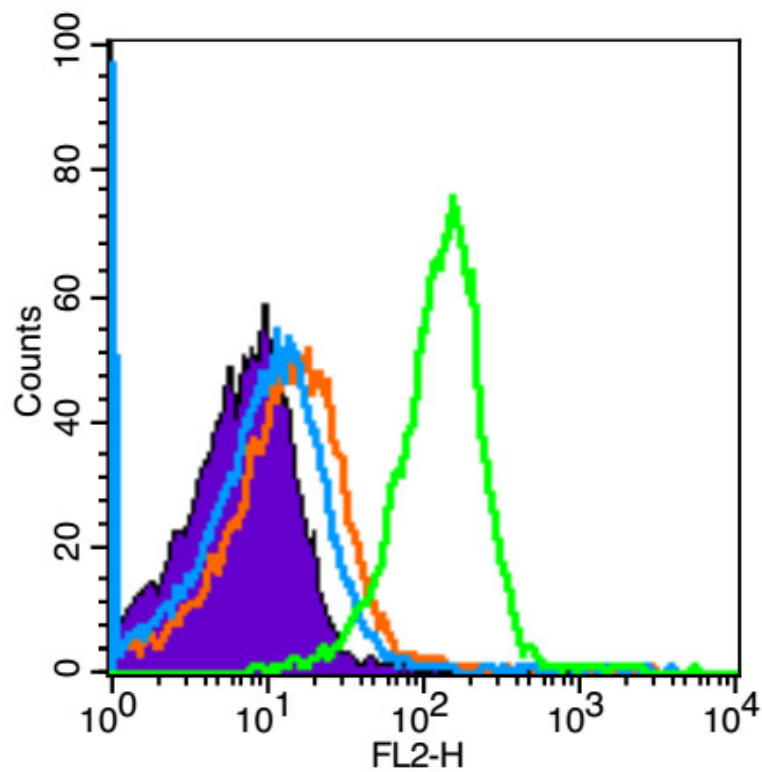
Isotype Control Antibody (orange line): Rabbit IgG .

Secondary Antibody: Goat anti-rabbit IgG-AF647

Dilution: 1 μ g /test.

Protocol

The cells were fixed with 4% PFA (10min at room temperature)and then permeabilized with 90% ice-cold methanol for 20 min at room temperature. The cells were then incubated in 5%BSA to block non-specific protein-protein interactions for 30 min at -20°C .Cells stained with Primary Antibody for 30 min at room temperature. The secondary antibody used for 40 min at room temperature. Acquisition of 20,000 events was performed.



Blank control (Black line): Mouse spleen (Black).

Primary Antibody (green line): Rabbit Anti-Oct4 antibody (SL0830R)

Dilution: $3\mu\text{g} / 10^6$ cells;

Isotype Control Antibody (orange line): Rabbit IgG .

Secondary Antibody (white blue line): Goat anti-rabbit IgG-PE

Dilution: $1\mu\text{g} / \text{test}$.

Protocol

The cells were fixed with 4% PFA (10min at room temperature)and then permeabilized with 90% ice-cold methanol for 20 min at room temperature. The cells were then incubated in 5%BSA goat serum to block non-specific protein-protein interactions for 15 min at room temperature .Cells stained with Primary Antibody for 30 min at room temperature. The secondary antibody used for 40 min at room temperature. Acquisition of 20,000 events was performed.