



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.
Organism Species:	Rabbit
Clonality:	Polyclonal
React Species:	Human,Mouse,Rat,Dog,Pig,Cow,
Applications:	WB=1:500-2000ELISA=1:500-1000IHC-P=1:400-800IHC-F=1:400-800Flow-Cyt=1ug/TestIF=1:100-500 (Paraffin sections need antigen repair) not yet tested in other applications. optimal dilutions/concentrations should be determined by the end user.
Molecular weight:	39kDa
Cellular localization:	The nucleus
Form:	Lyophilized or Liquid
Concentration:	1mg/ml
immunogen:	KLH conjugated synthetic peptide derived from human Octamer4:201-300/360
Lsotype:	IgG
Purification:	affinity purified by Protein A
Storage Buffer:	0.01M TBS(pH7.4) with 1% BSA, 0.03% Proclin300 and 50% Glycerol.
Storage:	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. The lyophilized antibody is stable at room temperature for at least one month and for greater than a year when kept at -20°C. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.
PubMed:	PubMed
Product Detail:	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.

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

[Ovim: 164177](#) Human

[SwissProt: O97552](#) Cow

[SwissProt: Q01860](#) Human

[SwissProt: P20263](#) Mouse

[SwissProt: Q9TSV5](#) Pig

[Unigene: 249184](#) Human

[Unigene: 632482](#) Human

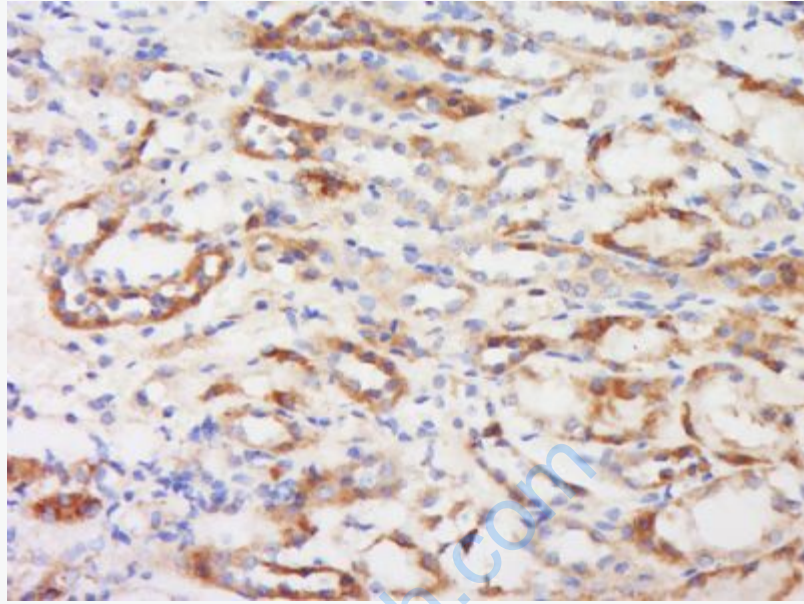
[Unigene: 646545](#) Human

[Unigene: 17031](#) Mouse

[Unigene: 161748](#) Rat

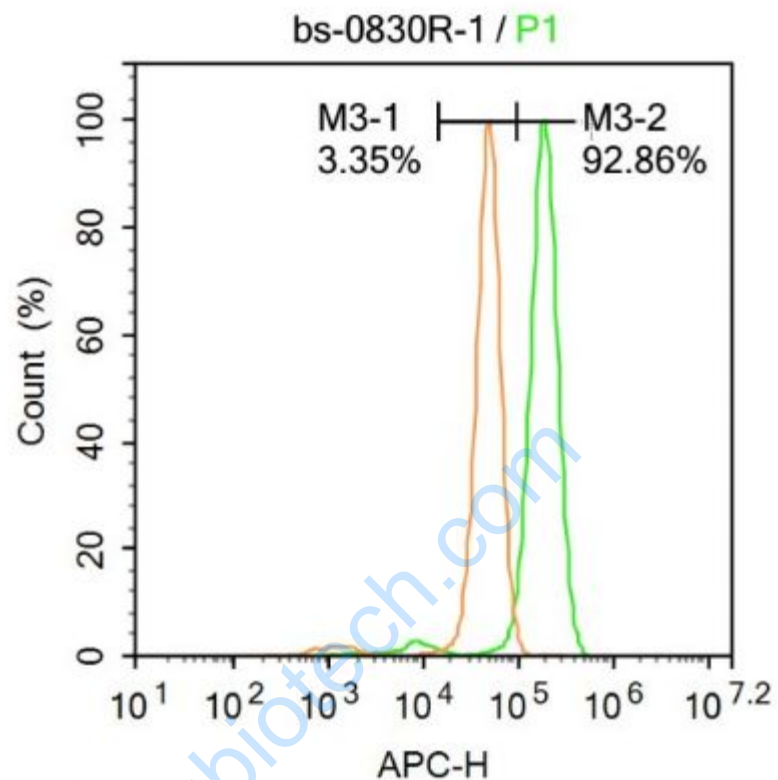
Important Note:

This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.



Picture:

Paraformaldehyde-fixed, paraffin embedded (rat kidney); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (Oct4) Polyclonal Antibody, Unconjugated (SL0830R) at 1:500 overnight at 4°C, followed by a conjugated secondary (sp-0023) for 20 minutes and DAB staining.



Blank control: HeLa.

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

Dilution: $1\mu\text{g} / 10^6$ cells;

Isotype Control Antibody (orange line): Rabbit IgG .

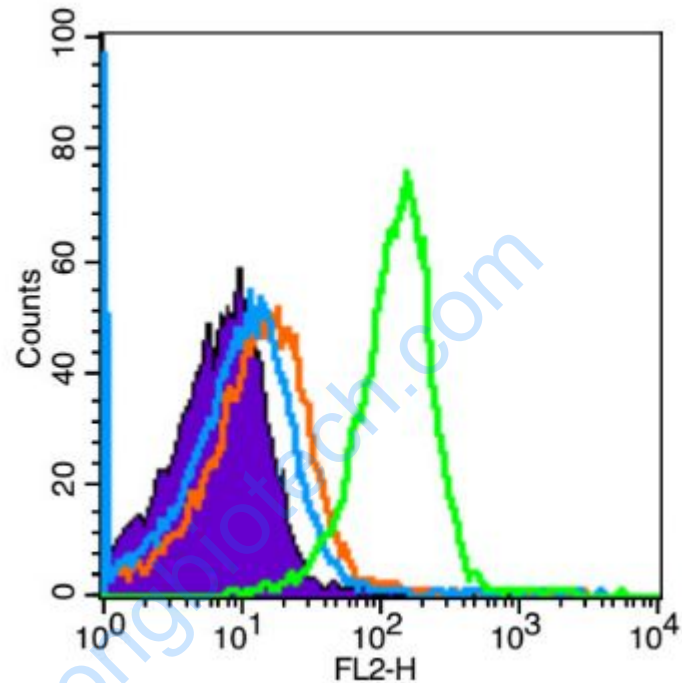
Secondary Antibody: Goat anti-rabbit IgG-AF647

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 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 μ g /10⁶ cells;

Isotype Control Antibody (orange line): Rabbit IgG .

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

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 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.

www.sunlongbiotech.com