

Oct4 Antibody
Purified Mouse Monoclonal Antibody
Catalog # AO1240a**Specification**

Oct4 Antibody - Product Information

Application	WB, IHC
Primary Accession	O01860
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Isotype	IgG1
Calculated MW	38.5kDa KDa

Description

Oct4: octamer-binding transcription factor-4 (Oct-4, Otf-4) and Oct-3/4, also known as POU5F1(POU class 5 homeobox 1), octamerbinding transcription factor-3 (Oct-3, Otf-3), modulates embryonic stem (ES) cell populations by influencing lineage commitment. Entrez Protein NP_002692. Oct-3/4 sustains stem-cell selfrenewal and differentiation pathways. Transcription factors containing the POU homeodomain regulate tissue-specific gene expression in lymphoid and pituitary differentiation and in early mammalian development. Oct-3/4 is capable of inducing rapid proliferation and tumorigenic properties of ES cells through activation of the UTF1 gene. In humans, two Oct-3/4 isoforms contribute to influencing the undifferentiated phenotype of ES cells. Oct-3/4 pseudogenes localizing to human chromosomes 10 and 8 are reported to be transcribed in certain cancer cell lines and tissues.

Immunogen

Purified recombinant fragment of Oct4 (aa193-360) expressed in E. Coli.

Formulation

Ascitic fluid containing 0.03% sodium azide.

Oct4 Antibody - Additional Information

Gene ID 5460

Other Names

POU domain, class 5, transcription factor 1, Octamer-binding protein 3, Oct-3, Octamer-binding protein 4, Oct-4, Octamer-binding transcription factor 3, OTF-3, POU5F1, OCT3, OCT4, OTF3

Dilution

WB~~1/500 - 1/2000

IHC~~1:200~~1000

Storage

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions

Oct4 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Oct4 Antibody - Protein Information

Name POU5F1

Synonyms OCT3, OCT4, OTF3

Function

Transcription factor that binds to the octamer motif (5'- ATTTGCAT-3'). Forms a trimeric complex with SOX2 or SOX15 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.

Cellular Location

Cytoplasm. Nucleus. Note=Expressed in a diffuse and slightly punctuate pattern. Colocalizes with MAPK8 and MAPK9 in the nucleus. {ECO:0000250|UniProtKB:P20263, ECO:0000269|PubMed:18191611, ECO:0000269|PubMed:19274063, ECO:0000269|PubMed:23024368}

Tissue Location

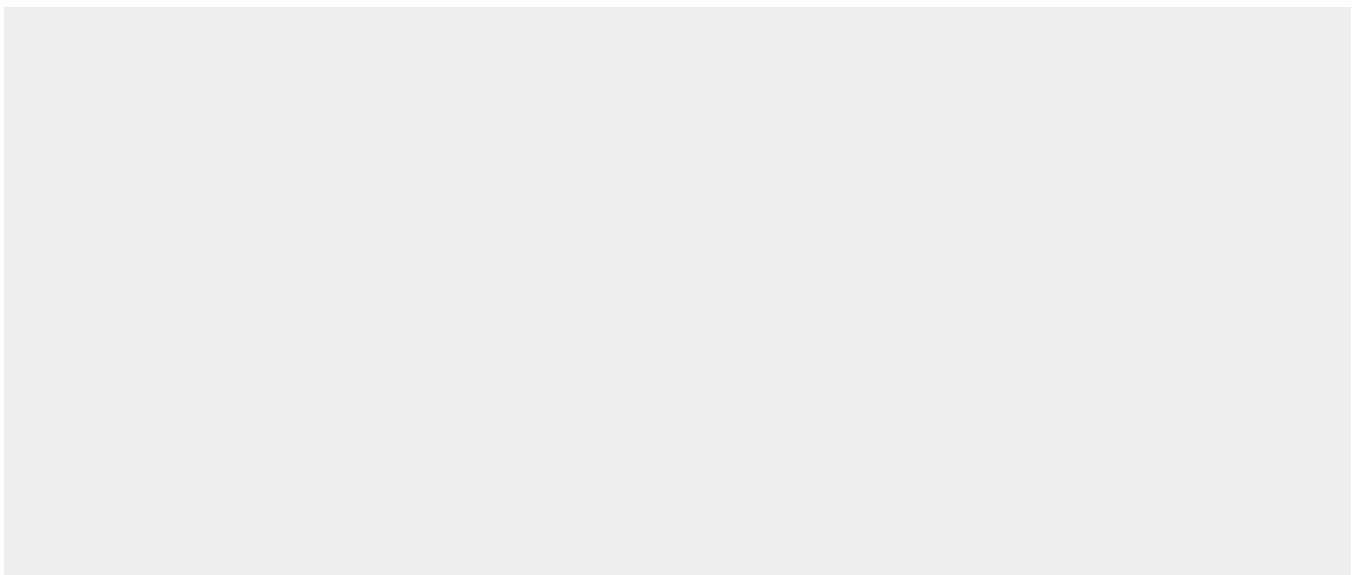
Expressed in developing brain. Highest levels found in specific cell layers of the cortex, the olfactory bulb, the hippocampus and the cerebellum. Low levels of expression in adult tissues.

Oct4 Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

Oct4 Antibody - Images



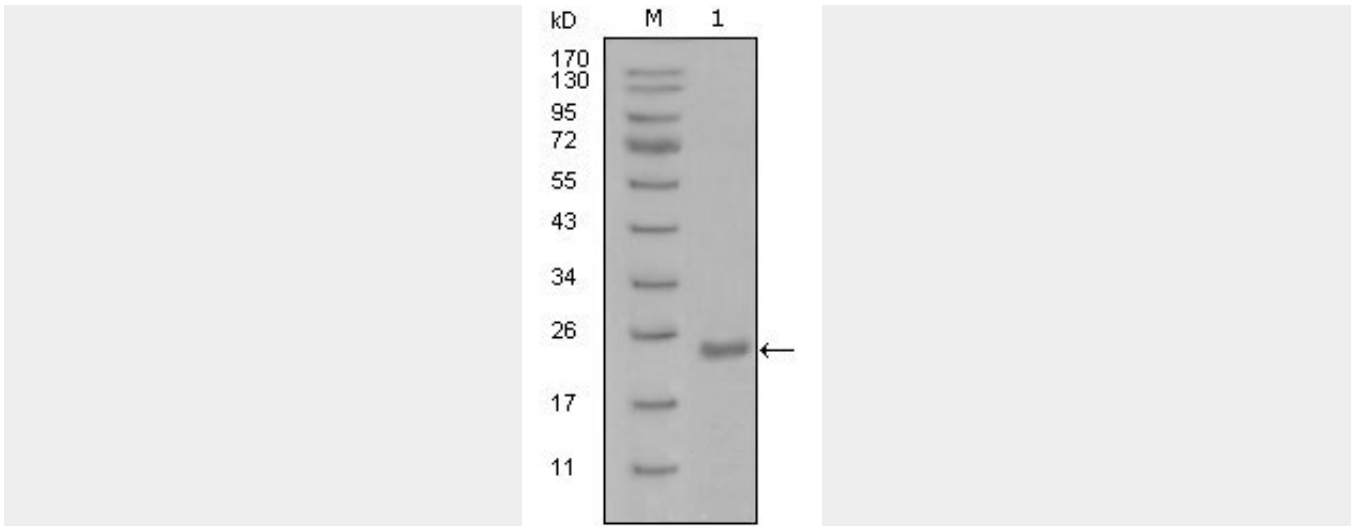


Figure 1: Western blot analysis using Oct4 mouse mAb against recombinant Oct4 protein with Trx tag (1).

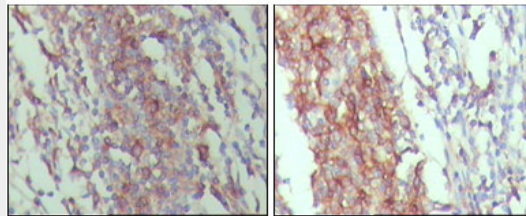


Figure 2: Immunohistochemical analysis of paraffin-embedded human lymph node tissue, showing membrane and cytoplasmic localization with DAB staining using CD45 mouse mAb.

Oct4 Antibody - References

1. Cells Tissues Organs. 2006;184(3-4):105-16.
2. Int J Cancer. 2007 Apr 1;120(7):1598-602.