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Oct4 Antibody

Purified Mouse Monoclonal Antibody
Catalog # AO1240a

Product Information

Application	WB, E
Primary Accession	Q01860
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Clone Names	1D10H6
Isotype	IgG1
Calculated MW	38571
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.

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 E~~N/A
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.

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.

References

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

Images

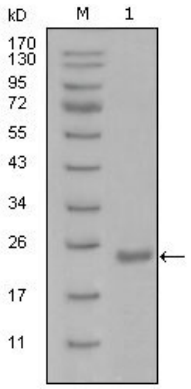

Figure 1: Western blot analysis using Oct4 mouse mAb against recombinant Oct4 protein with Trx tag (1).

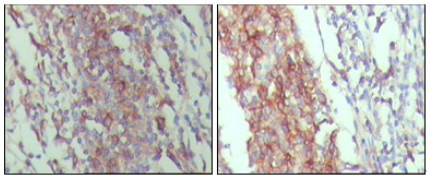

Figure 2: Immunohistochemical analysis of paraffin-embedded human lymph node tissue,showing membrane and cytoplasmic localization with DAB staining using CD45 mouse mAb.