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Oct4 Antibody

Purified Mouse Monoclonal Antibody
Catalog # AO1317a

Product Information

Application	WB, E
Primary Accession	Q01860
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Clone Names	3A5
Isotype	IgG1
Calculated MW	38571
Description	Members of Oct family of transcription factors specifically interact with Octamer motif ATGCAAAT, a regulatory element important for tissue- and cell-specific transcription as well as for transcription of a number of housekeeping genes. All of the members of the Oct family contain two highly conserved domains which are separated by 14-26 variable amino acids. These include the POU homeodomain and the POU-specific domain. Both are required for DNA binding and are involved in protein-protein interactions. Evidences indicate that regulation of Oct family transcription factors occurs at the level of phosphorylation. Oct4 is renowned as a transcription factor expressed by undifferentiated embryonic stem cells and embryonic germ cells.
Immunogen	Purified recombinant fragment of OCT4 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. Stem Cells. 2009 Mar;27(3):543-9. 2. Genome Biol. 2008;9(12):R172.

Images

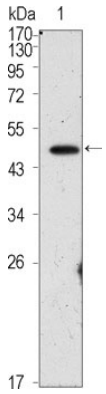


Figure 1: Western blot analysis using OCT4 mouse mAb against PMA treated HepG2 cell lysate (1).

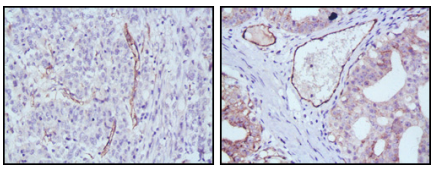


Figure 2: Immunohistochemical analysis of paraffin-embedded human stomach cancer (left) and ovary cancer (right) tissues using eNOS mouse mAb with DAB staining.

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