Anti-OC-3 Antibody

HA500470

Product Type:	Rabbit polyclonal IgG, primary antibodies
Species reactivity:	Human, Mouse
Applications:	WB, IHC-P, FC
Molecular Wt:	50 kDa

Description: The history of the Onecut (Oc) family of transcription factors begins, as does the history of many transcription factors, in Drosophila. Work carried out by Jan and colleagues discovered that mutations in the cut locus in Drosophila resulted in the transformation of external sensory organs into chordotonal organs during embryonic development. This unique family of transcription factors has an important role in the development of several different organs. The endodermally-derived hepatobiliary tract as well as the pancreas both rely on the Oc factors for proper differentiation of many mature cell types. A role for the Oc factors in neuronal development has been identified in many model systems indicating an important conserved function. While the discovery of the cut locus in Drosophila indicated its function in differentiation of the external sensory organs, the protein produced from that locus in fact contained three cut repeats. A paralog of mammalian Oc1 was identified in Drosophila named D-Onecut, role which has a unique in regulation of photoreceptor cell differentiation. Indeed, Oc orthologs regulate neural cell specification and differentiation in ascidians, zebrafish, Xenopus and C. elegans. Thus, the various cell types of the nervous system may represent the broadest and most diverse population where the Oc factors regulate cell lineage specification and differentiation.

Immunogen: Synthetic peptide within human onecut3 aa 350-390 / 494.

Positive control: SW480 cell lysate, Hela cell lysate, PC-3 cell lysate, human colon carcinoma tissue, human stomach tissue, SW620.

Subcellular location: Nucleus.

Database links: SwissProt: O60422 Human | Q8K557 Mouse

Recommended Dilutions:

WB	1:500
IHC-P	1:100-1:500
FC	1:50-1:100

Storage Buffer: 1*TBS (pH7.4), 0.2% BSA, 50% Glycerol. Preservative: 0.05% Sodium Azide.

Storage Instruction: Shipped at 4℃. Store at +4℃ short term (1-2 weeks). It is recommended to aliquot into single-use upon delivery. Store at -20℃ long term.

Purity: Immunogen affinity purified.

Images

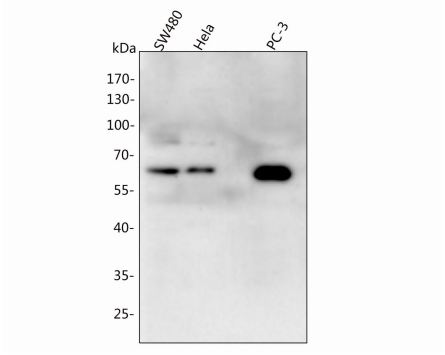

Fig1: Western blot analysis of OC-3 on different lysates. Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (HA500470, 1/500) was used in 5% NFDM/TBST at room temperature for 2 hours. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1:40,000 dilution was used for 1 hour at room temperature.
Positive control:
Lane 1: SW480 cell lysate
Lane 2: Hela cell lysate
Lane 3: PC-3 cell lysate

Predicted band size: 50 kDa
Observed band size: 60 kDa

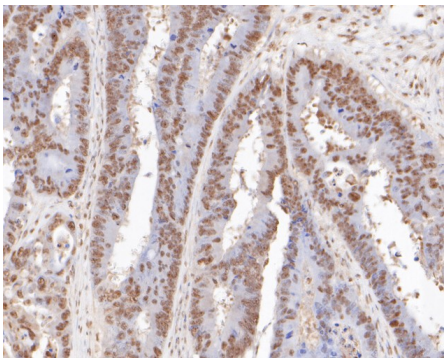

Fig2: Immunohistochemical analysis of paraffin-embedded human colon carcinoma tissue using anti-OC-3 antibody. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0) (high pressure) for 2 minutes. The tissues were blocked in 5% BSA for 30 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA500470, 1/400) for 30 minutes at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

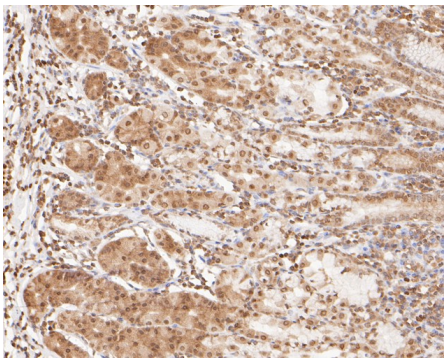

Fig3: Immunohistochemical analysis of paraffin-embedded human stomach tissue using anti-OC-3 antibody. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0) (high pressure) for 2 minutes. The tissues were blocked in 5% BSA for 30 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA500470, 1/400) for 30 minutes at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

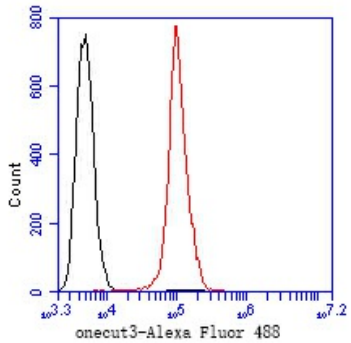

Fig4: Flow cytometric analysis of OC-3 was done on SW620 cells. The cells were fixed, permeabilized and stained with the primary antibody (HA500470, 1/50) (red). After incubation of the primary antibody at room temperature for an hour, the cells were stained with a Alexa Fluor 488-conjugated Goat anti-Rabbit IgG Secondary antibody at 1/1000 dilution for 30 minutes.Unlabelled sample was used as a control (cells without incubation with primary antibody; black).

Background References

1. Romanov RA. et. al. Molecular interrogation of hypothalamic organization reveals distinct dopamine neuronal subtypes. Nat Neurosci. 2017 Feb
2. van der Raadt J. et. al. ONECUT transcription factors induce neuronal characteristics and remodel chromatin accessibility. Nucleic Acids Res. 2019 Jun