Anti-human/mouse Oct-3/4-NL493

Catalog Number: NL1759G
Lot Number: AATL04
100 Tests in 50 µL staining volume
20 Tests in 250 µL staining volume

Reagents Provided

NorthernLights™ 493 (NL493)-conjugated rat monoclonal anti-human/mouse Oct-3/4: Supplied as a 10X solution of antibody in 0.5 mL PBS containing 0.09% sodium azide.

Clone #: 240408

Isotype: rat IgG_{2B}

Storage

Reagents are stable for **twelve months** from date of receipt when stored in the dark at 2° - 8° C.

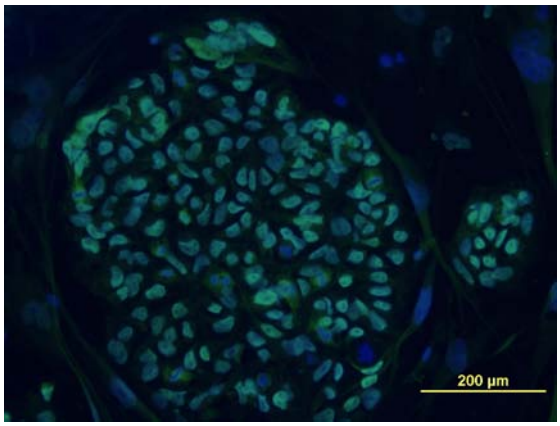
Intended Use

Designed to visualize the expression of Oct-3/4 by fluorescence microscopy.

Product Description

This antibody was produced from a hybridoma resulting from the fusion of a mouse myeloma with B cells obtained from a rat immunized with purified, *E. coli*-derived, recombinant human Octamer-binding transcription factor 3/4 (rhOct-3/4; Accession # S32652; isoform Oct3B; 265 aa).[1] The IgG fraction of the tissue culture supernatant was purified by Protein G affinity chromatography. The purified antibody was then conjugated to fluorochrome NL493. The spectral characteristics of NL493 are provided, along with those of FITC and Alexa Fluor® 488 for comparison.

Fluorochrome	Absorption Maximum (nm)	Emission Maximum (nm)
NL493	493	514
FITC	492	520
Alexa Fluor 488	495	519



Oct-3/4-NL493

BG01V cells were stained with NL493-conjugated anti-human/mouse Oct-3/4 (Catalog # NL1759G, green) and counterstained with DAPI (blue).

Background Information

Oct-3/4, also termed Oct-3 or Oct-4, is a POU transcription factor that is expressed in totipotent embryonic stem and germ cells.[2, 3] Oct-3/4 is required to sustain stem cell self-renewal and pluripotency.[4] It is considered a master regulator of pluripotency that controls lineage commitment and is the most widely recognized marker of totipotent embryonic stem cells. This antibody was selected for its ability to detect the 265 amino acid isoform of human Oct-3/4 in Western blots, immunohistochemistry, and flow cytometry experiments. Reactivity with other isoforms was not tested.

References

1. Takeda, J. *et al*. (1992) Nucleic Acids Res. **20**:4613.
2. Scholer, H.R. *et al*. (1989) EMBO J. **8**:2543.
3. Rosner, M.H. *et al*. (1990) Nature **345**:686.
4. Niwa, H. *et al*. (2000) Nat. Genet. **24**:372.

Immunocytochemistry Validation

This antibody has been tested for immunocytochemistry using BG01V cells. Cells were fixed in PBS containing 4% paraformaldehyde, and blocked with PBS containing 10% normal donkey serum, 0.1% Triton® X-100, and 1% BSA. After blocking, cells were incubated with NL493-conjugated antibody at a final concentration of 1X (1:10 dilution) in blocking buffer for 3 hours at room temperature in the dark. Between each step, cells were washed with PBS containing BSA. If a staining volume of 250 µL is used, this kit can be used for 20 tests; 100 tests can be done in a staining volume of 50 µL.

Warning: Contains sodium azide as a preservative - sodium azide may react with lead and copper plumbing to form explosive metal azides. Flush with large volumes of water during disposal.

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