

# FOXP3 (236A/E7): sc-56680

## BACKGROUND

The FOX family of transcription factors is a large group of proteins that share a common DNA binding domain termed a winged-helix or forkhead domain. During early development, FOXP1 and FOXP2 are expressed abundantly in the lung, with lower levels of expression in neural, intestinal and cardiovascular tissues, where they act as transcription repressors. FOXP1 is widely expressed in adult tissues, while neoplastic cells often exhibit a dramatic change in expression level or localization of FOXP1. The gene encoding human FOXP1 maps to chromosome 3p14.1. The gene encoding human FOXP2 maps to chromosome 7q31. The gene encoding FOXP3, a third member of this family, maps to chromosome Xp11.23. Mutations in this gene cause IPEX, a fatal, X-linked inherited disorder characterized by immune dysregulation. The FOXP3 protein, also known as scurfín, is essential for normal immune homeostasis. Specifically, FOXP3 represses transcription through a DNA binding forkhead domain, thereby regulating T cell activation.

## REFERENCES

- Lai, C.S., et al. 2000. The SPCH1 region on human 7q31: genomic characterization of the critical interval and localization of translocations associated with speech and language disorder. *Am. J. Hum. Genet.* 67: 357-368.
- Banham, A.H., et al. 2001. The FOXP1 winged helix transcription factor is a novel candidate tumor suppressor gene on chromosome 3p. *Cancer Res.* 61: 8820-8829.
- Bennett, C.L., et al. 2001. The immune dysregulation, polyendocrinopathy, enteropathy, X-linked syndrome (IPEX) is caused by mutations of FOXP3. *Nat. Genet.* 27: 20-21.
- Shu, W., et al. 2001. Characterization of a new subfamily of winged-helix/forkhead (FOX) genes that are expressed in the lung and act as transcriptional repressors. *J. Biol. Chem.* 276: 27488-27497.
- Brunkow, M.E., et al. 2001. Disruption of a new forkhead/winged-helix protein, scurfín, results in the fatal lymphoproliferative disorder of the scurfy mouse. *Nat. Genet.* 27: 68-73.
- Schubert, L.A., et al. 2001. Scurfín (FOXP3) acts as a repressor of transcription and regulates T cell activation. *J. Biol. Chem.* 276: 37672-37679.

## CHROMOSOMAL LOCATION

Genetic locus: FOXP3 (human) mapping to Xp11.23.

## SOURCE

FOXP3 (236A/E7) is a mouse monoclonal antibody raised against FOXP3 fusion protein of human origin.

## PRODUCT

Each vial contains 100 µg IgG<sub>1</sub> in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## APPLICATIONS

FOXP3 (236A/E7) is recommended for detection of FOXP3 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10<sup>6</sup> cells).

Suitable for use as control antibody for FOXP3 siRNA (h): sc-43569, FOXP3 shRNA Plasmid (h): sc-43569-SH and FOXP3 shRNA (h) Lentiviral Particles: sc-43569-V.

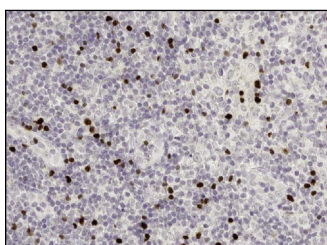
Molecular Weight of FOXP3: 48 kDa.

Positive Controls: human tonsil lymphoid cells.

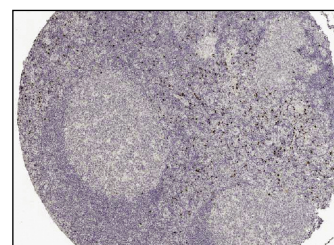
## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use goat anti-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 3) Immunohistochemistry: use ImmunoCruz™: sc-2050 or ABC: sc-2017 mouse IgG Staining Systems.

## DATA



FOXP3 (236A/E7): sc-56680. Immunoperoxidase staining of formalin fixed, paraffin-embedded human tonsil showing nuclear staining of subset of lymphoid cells outside the reaction centra at high magnification. Kindly provided by The Swedish Human Protein Atlas (HPA) program.



FOXP3 (236A/E7): sc-56680. Immunoperoxidase staining of formalin fixed, paraffin-embedded human tonsil showing nuclear staining of subset of lymphoid cells outside the reaction centra at low magnification. Kindly provided by The Swedish Human Protein Atlas (HPA) program.

## SELECT PRODUCT CITATIONS

- Chu, S., et al. 2011. The expression of Foxp3 and ROR γ t in lung tissues from normal smokers and chronic obstructive pulmonary disease patients. *Int. Immunopharmacol.* 11: 1780-1788.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.