SANTA CRUZ BIOTECHNOLOGY, INC.

# FOXP3 (3G3): sc-52899

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*The Power to Question*

## 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 and 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 scurfin, is essential for normal immune homeostasis. Specifically, FOXP3 represses transcription through a DNA binding forkhead domain, thereby regulating T cell activation.

## REFERENCES


1. 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.
2. 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.
3. 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.
4. 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.
5. Brunkow, M.E., et al. 2001. Disruption of a new forkhead/winged-helix protein, scurfin, results in the fatal lymphoproliferative disorder of the scurfy mouse. Nat. Genet. 27: 68-73.
6. Schubert, L.A., et al. 2001. Scurfin (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; Foxp3 (mouse) mapping to X A1.1.

## SOURCE

FOXP3 (3G3) is a mouse monoclonal antibody raised against the N-terminus of FOXP3 of mouse origin.

## PRODUCT

Each vial contains 200 µg $IgG_1$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

FOXP3 (3G3) is available conjugated to either phycoerythrin (sc-52899 PE) or fluorescein (sc-52899 FITC), 200 µg/ml, for IF, IHC(P) and FCM.

## APPLICATIONS

FOXP3 (3G3) is recommended for detection of FOXP3 of mouse, rat and human origin by flow cytometry (1 µg per 1 x $10^6$ cells).

Suitable for use as control antibody for FOXP3 siRNA (h): sc-43569, FOXP3 siRNA (m): sc-45646, FOXP3 siRNA (r): sc-270590, FOXP3 shRNA Plasmid (h): sc-43569-SH, FOXP3 shRNA Plasmid (m): sc-45646-SH, FOXP3 shRNA Plasmid (r): sc-270590-SH, FOXP3 shRNA (h) Lentiviral Particles: sc-43569-V, FOXP3 shRNA (m) Lentiviral Particles: sc-45646-V and FOXP3 shRNA (r) Lentiviral Particles: sc-270590-V.

Molecular Weight of FOXP3: 48 kDa.

Positive Controls: mouse brain extract: sc-2253.

## STORAGE

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

## RESEARCH USE

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

## PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

CONJUGATES

See **FOXP3 (2A11G9): sc-53876** for FOXP3 antibody conjugates, including AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647.