SANTA CRUZ BIOTECHNOLOGY, INC.

AIRE-1 (D-17): sc-17986

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The autoimmune regulator gene, which is defective in the hereditary autoimmune disease APECED, encodes the transcriptional activator AIRE-1. AIRE-1 is expressed in the medullary epithelial cells and monocyte-dendritic cells of the thymus, with lower expression in the spleen, fetal liver and lymph nodes. In adult tissue, AIRE-1 expression in the thymus is confined to the medulla and the cortico-medullary junction, where it is modulated by thymocytes undergoing negative selection. At the cellular level, AIRE-1 is located in microtubular structures of the cytoskeleton and in discrete nuclear dots resembling ND10 nuclear bodies. AIRE-1 is induced by developing early thymocytes and is associated with the correct establishment of a regular thymic environment. AIRE-1 regulates thymic architecture via transcriptional control of downstream target genes. AIRE-1 mutations in APECED patients may affect thymic T cell selection and the formation of self-tolerance.

CHROMOSOMAL LOCATION

Genetic locus: AIRE (human) mapping to 21q22.3; Aire (mouse) mapping to 10 C1.

SOURCE

AIRE-1 (D-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of AIRE-1 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-17986 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

AIRE-1 (D-17) is recommended for detection of AIRE-1 of mouse, rat and 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

AIRE-1 (D-17) is also recommended for detection of AIRE-1 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for AIRE-1 siRNA (h): sc-37669, AIRE-1 siRNA (m): sc-37670, AIRE-1 shRNA Plasmid (h): sc-37669-SH, AIRE-1 shRNA Plasmid (m): sc-37670-SH, AIRE-1 shRNA (h) Lentiviral Particles: sc-37669-V and AIRE-1 shRNA (m) Lentiviral Particles: sc-37670-V.

Molecular Weight (predicted) of AIRE-1: 55 kDa.

Molecular Weight (observed) of AIRE-1: 55/61 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227

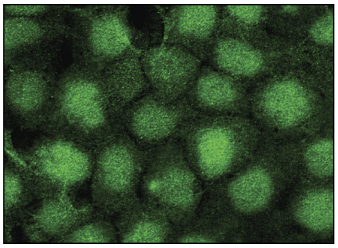
STORAGE

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

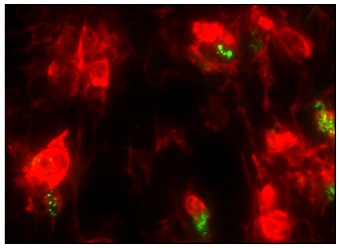
RESEARCH USE

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

DATA



AIRE-1 (D-17): sc-17986. Immunofluorescence staining of methanol-fixed A-431 cells showing nuclear localization.



Aire (D-17): sc-17986. Mouse thymus; Aire Green, Keratin 8 Red. Frozen section fixed with paraformaldehyde and subjected to tris antigen retrieval. Also works with acetone fixation or formalin fixed, paraffin sections subjected to antigen retrieval. No staining of aldehyde-fixed tissue without retrieval. Kindly provided by A.G. Farr, University of Washington, and M.C. Zúñiga University of California Santa Cruz.

SELECT PRODUCT CITATIONS

1. Dooley, J., et al. 2009. Lessons from thymic epithelial heterogeneity: FoxN1 and tissue-restricted gene expression by extrathymic, endodermally derived epithelium. J. Immunol. 183: 5042-5049.
2. Bonfanti, P., et al. 2010. Microenvironmental reprogramming of thymic epithelial cells to skin multipotent stem cells. Nature 466: 978-982.
3. Vroegindeweij, E., et al. 2010. Thymic cysts originate from Foxn1 positive thymic medullary epithelium. Mol. Immunol. 47: 1106-1113.
4. Pedroza, L.A., et al. 2012. Autoimmune regulator (AIRE) contributes to Dectin-1-induced TNF-α production and complexes with caspase recruitment domain-containing protein 9 (CARD9), spleen tyrosine kinase (Syk), and Dectin-1. J. Allergy Clin. Immunol. 129: 464-472.

PROTOCOLS

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