SANTA CRUZ BIOTECHNOLOGY, INC.

AIRE-1 (H-300): sc-33188

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. AIRE 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 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 is located in microtubular structures of the cytoskeleton and in discrete nuclear dots resembling ND10 nuclear bodies. AIRE is induced by developing early thymocytes and is associated with the correct establishment of a regular thymic environment. AIRE regulates thymic architecture via transcriptional control of downstream target genes. AIRE 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 (H-300) is a rabbit polyclonal antibody raised against amino acids 246-545 mapping at the C-terminus 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.

STORAGE

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

APPLICATIONS

AIRE-1 (H-300) is recommended for detection of AIRE-1 isoforms 1, 2 and 3 of human and, to a lesser extent, mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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.

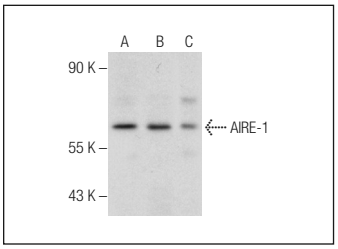
Molecular Weight (observed) of AIRE-1: 55/61 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201, Jurkat whole cell lysate: sc-2204 or A549 cell lysate: sc-2413.

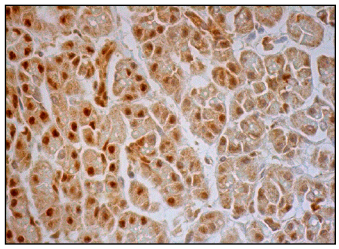
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



AIRE-1 (H-300): sc-33188. Western blot analysis of AIRE-1 expression in A-431 (**A**), Jurkat (**B**) and A549 (**C**) nuclear extracts.



AIRE-1 (H-300): sc-33188. Immunoperoxidase staining of formalin fixed, paraffin-embedded human pancreas tissue showing cytoplasmic and nuclear staining of exocrine glandular cells.

SELECT PRODUCT CITATIONS

1. Su, M.A., et al. 2008. Mechanisms of an autoimmunity syndrome in mice caused by a dominant mutation in Aire. J. Clin. Invest. 118: 1712-1726.
2. Zumer, K., et al. 2011. Patient mutation in AIRE disrupts P-TEFb binding and target gene transcription. Nucleic Acids Res. 39: 7908-7919.
3. Lima, F.A., et al. 2011. Decreased AIRE expression and global thymic hypofunction in Down syndrome. J. Immunol. 187: 3422-3430.
4. Pedroza, LA., 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.

RESEARCH USE

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