

AIRE Antibody (Internal)
Goat Polyclonal Antibody
Catalog # ALS11888**Specification**

AIRE Antibody (Internal) - Product Information

Application	IHC
Primary Accession	O43918
Reactivity	Human, Rat, Hamster, Horse, Dog
Host	Goat
Clonality	Polyclonal
Calculated MW	58kDa KDa

AIRE Antibody (Internal) - Additional Information**Gene ID** 326**Other Names**

Autoimmune regulator, Autoimmune polyendocrinopathy candidiasis ectodermal dystrophy protein, APECED protein, AIRE, APECED

Target/Specificity

Human AIRE. This antibody is expected to recognise isoform 1 (NP_000374.1) only.

Reconstitution & Storage

Store at -20°C. Minimize freezing and thawing.

Precautions

AIRE Antibody (Internal) is for research use only and not for use in diagnostic or therapeutic procedures.

AIRE Antibody (Internal) - Protein Information**Name** AIRE**Synonyms** APECED**Function**

Transcription factor playing an essential role to promote self-tolerance in the thymus by regulating the expression of a wide array of self-antigens that have the commonality of being tissue-restricted in their expression pattern in the periphery, called tissue restricted antigens (TRA) (PubMed: <http://www.uniprot.org/citations/26084028> target="_blank">26084028). Binds to G-doublets in an A/T-rich environment; the preferred motif is a tandem repeat of 5'-ATTGGTTA-3' combined with a 5'-TTATTA-3' box. Binds to nucleosomes (By similarity). Binds to chromatin and interacts selectively with histone H3 that is not methylated at 'Lys-4', not phosphorylated at 'Thr-3' and not methylated at 'Arg-2'. Functions as a sensor of histone H3 modifications that are important for the epigenetic regulation of gene expression. Mainly expressed by medullary thymic epithelial cells (mTECs), induces the expression of thousands of

tissue-restricted proteins, which are presented on major histocompatibility complex class I (MHC-I) and MHC-II molecules to developing T-cells percolating through the thymic medulla (PubMed:26084028). Also induces self- tolerance through other mechanisms such as the regulation of the mTEC differentiation program. Controls the medullary accumulation of thymic dendritic cells and the development of regulatory T-cell through the regulation of XCL1 expression. Regulates the production of CCR4 and CCR7 ligands in medullary thymic epithelial cells and alters the coordinated maturation and migration of thymocytes. In thimic B-cells, allows the presentation of licensing-dependent endogenous self-anitgen for negative selection. In secondary lymphoid organs, induces functional inactivation of CD4(+) T-cells. Expressed by a distinct bone marrow-derived population, induces self-tolerance through a mechanism that does not require regulatory T-cells and is resitant to innate inflammatory stimuli (By similarity).

Cellular Location

Nucleus. Cytoplasm. Note=Predominantly nuclear but also cytoplasmic (PubMed:11274163, PubMed:14974083). Found in nuclear body- like structures (dots) and in a filamentous vimentin-like pattern (PubMed:11274163, PubMed:14974083, PubMed:26084028). Associated with tubular structures (PubMed:11274163, PubMed:14974083)

Tissue Location

Widely expressed. Expressed at higher level in thymus (medullary epithelial cells and monocyte-dendritic cells), pancreas, adrenal cortex and testis. Expressed at lower level in the spleen, fetal liver and lymph nodes. In secondary lymphoid organs, expressed in a discrete population of bone marrow-derived toleregenic antigen presenting cells (APCs) called extrathymic AIRE expressing cells (eTAC)(at protein level) (PubMed:23993652). Isoform 2 and isoform 3 seem to be less frequently expressed than isoform 1, if at all

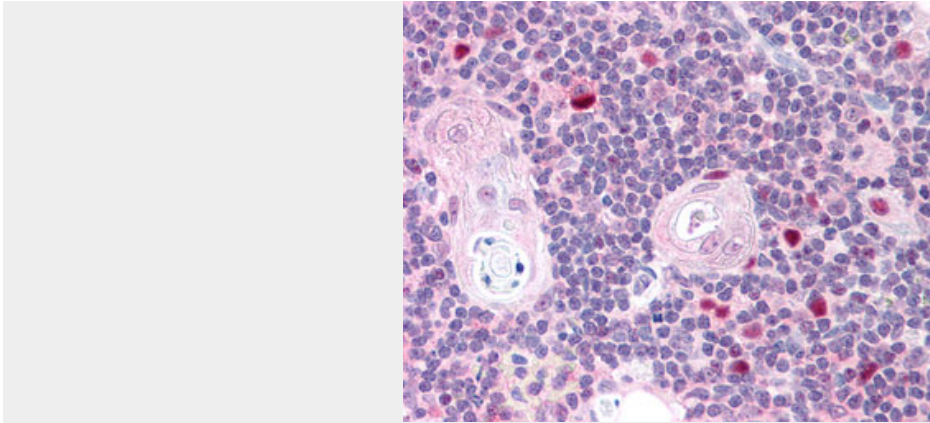
AIRE Antibody (Internal) - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

AIRE Antibody (Internal) - Images





Anti-AIRE antibody IHC of human thymus.

AIRE Antibody (Internal) - Background

Transcriptional regulator that binds to DNA as a dimer or as a tetramer, but not as a monomer. Binds to G-doublets in an A/T-rich environment; the preferred motif is a tandem repeat of 5'-ATTGGTTA-3' combined with a 5'-TTATTA-3' box. Binds to nucleosomes (By similarity). Binds to chromatin and interacts selectively with histone H3 that is not methylated at 'Lys-4', not phosphorylated at 'Thr-3' and not methylated at 'Arg-2'. Functions as a sensor of histone H3 modifications that are important for the epigenetic regulation of gene expression. Functions as a transcriptional activator and promotes the expression of otherwise tissue-specific self-antigens in the thymus, which is important for self tolerance and the avoidance of autoimmune reactions.

AIRE Antibody (Internal) - References

Nagamine K.,et al.Nat. Genet. 17:393-398(1997).
Aaltonen J.,et al.Nat. Genet. 17:399-403(1997).
Lee Y.S.,et al.Submitted (JUL-1998) to the EMBL/GenBank/DDBJ databases.
Hattori M.,et al.Nature 405:311-319(2000).
Mural R.J.,et al.Submitted (SEP-2005) to the EMBL/GenBank/DDBJ databases.