

Recombinant Mouse Aire Protein, MYC/DDK-tagged

Cat. No. Aire-560M Lot. No. (See product label)

SPECIFICATION

Product Overview Purified recombinant protein of full-length mouse autoimmune regulator (autoimmune polyendocrinopathy candidiasis ectodermal dystrophy) (Aire), with C-terminal MYC/DDK tag, expressed in HEK293T cells.

Species Mouse

Source HEK293

Description 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) (Probable). 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. 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. 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

 Tel: 1-631-559-9269 1-516-512-3133

 Email: info@creative-biomart.com  Fax: 1-631-938-8127

 45-1 Ramsey Road, Shirley, NY 11967, USA

of CCR4 and CCR7 ligands in medullary thymic epithelial cells and alters the coordinated maturation and migration of thymocytes. In thymic B-cells, allows the presentation of licensing-dependent endogenous self-antigen 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 resistant to innate inflammatory stimuli.

Molecular Mass	59.5 kDa
Purity	>80% as determined by SDS-PAGE and Coomassie blue staining
Stability	Stable for 12 months from the date of receipt of the product under proper storage and handling conditions. Avoid repeated freeze-thaw cycles.
Storage	Store at -80 centigrade after receiving vials.
Concentration	>50 µg/mL as determined by microplate BCA method
Storage Buffer	25 mM Tris.HCl, pH 7.3, 100 mM glycine, 10% glycerol.

GENE INFORMATION

Gene Name	Aire autoimmune regulator (autoimmune polyendocrinopathy candidiasis ectodermal dystrophy) [<i>Mus musculus</i> (house mouse)]
Official Symbol	Aire
Synonyms	Aire; autoimmune regulator (autoimmune polyendocrinopathy candidiasis ectodermal dystrophy); autoimmune regulator; APECED protein homolog; autoimmune polyendocrinopathy candidiasis ectodermal dystrophy protein homolog; autoimmune

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	regulator AIRE1a
Gene ID	11634
mRNA Refseq	NM_009646
Protein Refseq	NP_033776
UniProt ID	Q9Z0E3

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