

## Product datasheet for **MR230214**

### Aire (NM\_001271553) Mouse Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Aire (NM_001271553) Mouse Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Aire
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
Cell Selection:	Neomycin



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**ORF Nucleotide Sequence:**

>MR230214 representing NM\_001271553  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGCATCGCC**

ATGGCAGGTGGGGATGGAATGCTACGCCGTCTGCTGAGGCTGCACCCGACCGAGATCGCGGTGGCCATAG  
 ACAGTGCCTTTCCGCTGCTGCATGCTCTAGCCGACCACGACGTGGTCCCTGAGGACAAGTCCAGGAGAC  
 GCTCCGCTCTGAAGGAGAAGGAAGGCTGCCCCAGGCCTTCCACGCCCTGCTGTCTGGCTCTGACCCGG  
 GACAGTGGGGCCATCCTGGATTCTGGAGGATTCTTTAAGGACTACAATCTGGAGCGGTACAGCCGCC  
 TGCATAGCATCCTGGACGGCTTCCAAAAGATGTGGACCTAAACCAGTCCCGAAAGGGAGAAAGCCCT  
 TGCTGGTCCCAAGGCCGCGTACTGCCACCCAGACCCCAAGAGAAAAGCACTGGAGGAGCCTCGA  
 GCCACCCACCAGCAACTCTGGCCTCAAAGAGCGTCTCCAGCCAGGCTCCACCTGAAGACTAAGCCCC  
 CTAGAAGCCAGATGGCAACTTGGAGTACAGCACCTTCTCTTGAAACGGAATTCAGACCATGGCAGC  
 TTCTGTCCAGAGAGCTGTGACCGTGGCCTCTGGGGATGTTCCAGGAACCCGAGGGGCCGTGAAGGGATC  
 TTATCCAGCAGGTGTTTGTAGTCAGGAAGATCCAAGAAGTGCATTAGGTTGGGGGAGAGTTTTATACAC  
 CCAACAAGTTCGAAGACCCAGTGGCAATTTGAAGAACAAGGCCCGGAGTGGTAGCAGCCTAAAGCCAGT  
 GGTCCGAGCCAAGGGAGCCAGGCTACTATACCTGGTAGAGATGAGCAGAAAAGTGGGCCAGCAGTGTGGG  
 GTTCTCCCTTCCATCCCTCCCAAGTGAAGCCAGGTTAACCAGAACGAGGATGAGTGTGCCGTGTGCC  
 ACGACGGAGGTGAGCTCATCTGTTGTGACGGCTGTCCCGGGCCTTCCACCTGGCTTGCCTGTCCCACC  
 TCTGCAGGAGATCCCAAGTGGCCTCTGGAGATGCTCTGCTGCCTCCAGGGCAGAGTCCAACAGAACCTG  
 TCCAGCCTGAGGTGTCCAGGCCCGGAGCTACCTGCAGAGACCCGGGTTCCAGCACCAAGCGCGCGAT  
 GCAGTGTGTGGCGATGGCACCAGGTTGCGGTGTGCACACTGTGCCGCTGCCTTCCACTGGCGTG  
 CCACTTCCCGACGCGCGCCCGCCGGGACCAATCTCCGCTGCAAACTCTGCTCTGCAGACTCGACT  
 CCCACGCCAGGCACACCGGGCAAGCTGTACCCACCTCTGGGCCCGTCCAGCACCTGGGCTTGCCAAGG  
 TAGGGGACGACTCTGCTAGTACGACCCTGTTCTACATAGGGACGACCTGGAGTCCCTCCTCAATGAGCA  
 CTCATTTGACGGCATCCTGCAGTGGCCATCCAGAGCATGTCACGCCGCTGGCCGAGACACCACCTTC  
 TCTTCC

**ACGCGT**ACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:**

>MR230214 representing NM\_001271553  
 Red=Cloning site Green=Tags(s)

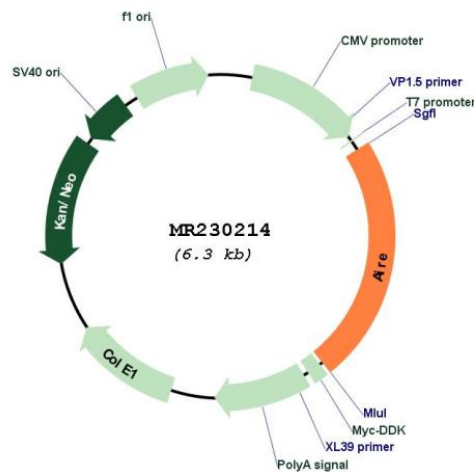
MAGGDGMLRRLRLHRTEIAVAIDSAPFLHLALADHDVVPEDKQFETLRLKEKEGCPQAFHALLSWLLTR  
 DSGAILDWFRILFKDYNLERYSLHSILDGFPKVDLNLQSRKGRKPLAGPKAAVLPFRPPTKRKALEEPR  
 ATPPATLASKSVSSPGSHLKTTPPKPDGNLESQHLPLNGIQTMAASVQRAVTVASGDVPGTRGAVEGI  
 LIQQVFESGRSKKCIQVGGFYPNKFEDPSGNLKNKARSGLKPVVRAKGAQVTIPGRDEQKVGQQCG  
 VPPLPSLPSEPVNQNEDECAVCHDGGELICCDGCPRAFHLACLSPPLQEIPSGLWRCSCCLQGRVQNL  
 SQPEVSRPPELPAETPGPAPSARCSVCGDGEVLRCAHCAAFAHWRCHFPTAAARPNTLRCKSCSADST  
 PTPGTPGEAVPTSGPRPAPGLAKVGDSSASHDPVLRDDESLLENEHSFDGILQWAIQMSRPLAETPPF  
 SS

**TRTRPLEQKLISEEDLAANDILDYKDDDDKV**

**Restriction Sites:**

Sgfl-Mlul

**Cloning Scheme:**

**Plasmid Map:**


**ACCN:** NM\_001271553

**ORF Size:** 1476 bp

**OTI Disclaimer:** The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially in agreement with the reference, but a complete review of all prevailing variants is recommended prior to use. [More info](#)

**OTI Annotation:** This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.

**Components:** The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).

**Reconstitution Method:**

1. Centrifuge at 5,000xg for 5min.
2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.
3. Close the tube and incubate for 10 minutes at room temperature.
4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.
5. Store the suspended plasmid at -20°C. The DNA is stable for at least one year from date of shipping when stored at -20°C.

**RefSeq:** [NM\\_001271553.1](#), [NP\\_001258482.1](#)

**RefSeq Size:** 1813 bp

**RefSeq ORF:** 1479 bp

**Locus ID:** 11634

**UniProt ID:** [Q9Z0E3](#)

**Cytogenetics:** 10 39.72 cM

**MW:** 53.3 kDa

**Gene Summary:** 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 (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 (By similarity). Also induces self-tolerance through other mechanisms such as the regulation of the mTEC differentiation program (PubMed:19015306). Controls the medullary accumulation of thymic dendritic cells and the development of regulatory T-cell through the regulation of XCL1 expression (PubMed:21300913). Regulates the production of CCR4 and CCR7 ligands in medullary thymic epithelial cells and alters the coordinated maturation and migration of thymocytes (PubMed:19923453). In thymic B-cells, allows the presentation of licensing-dependent endogenous self-antigen for negative selection (PubMed:26070482). 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 (PubMed:23993652). [UniProtKB/Swiss-Prot Function]