**OriGene Technologies, Inc.**
9620 Medical Center Drive, Ste 200
Rockville, MD 20850, US
Phone: +1-888-267-4436
https://www.origene.com
techsupport@origene.com
EU: info-de@origene.com
CN: techsupport@origene.cn

# Product datasheet for RC205342

## ALDH1A2 (NM_170696) Human Tagged ORF Clone

### Product data:

| | |
|---|---|
| **Product Type:** | Expression Plasmids |
| **Product Name:** | ALDH1A2 (NM_170696) Human Tagged ORF Clone |
| **Tag:** | Myc-DDK |
| **Symbol:** | ALDH1A2 |
| **Synonyms:** | RALDH(II); RALDH2; RALDH2-T |
| **Mammalian Cell Selection:** | Neomycin |
| **Vector:** | pCMV6-Entry (PS100001) |
| **E. coli Selection:** | Kanamycin (25 ug/mL) |

This product is to be used for laboratory only. Not for diagnostic or therapeutic use.
©2023 OriGene Technologies, Inc., 9620 Medical Center Drive, Ste 200, Rockville, MD 20850, US

**ORF Nucleotide Sequence:**

>RC205342 ORF sequence
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCCGCGATCGCC

ATGACTTCCAGCAAGATAGAGATGCCCGGCGAGGTGAAGGCCGACCCCGCCGCCCTCATGGCGTCGCTGC
ACCTCCTGCCGTCGCCCACGCCCAATCTCGAAATTAAGTACACCAAGATCTTTATAAACAACGAGTGGCA
GAACTCAGAGAGTGGGAGAGTGTTCCCTGTCTATAATCCAGCCACAGGAGAACAGGTGTGTGAAGTTCAA
GAAGCAGACAAGGCAGATATAGACAAAGCAGTGCAGGCAGCCCGCCTGGCTTTCTCTCTTGGTTCAGTGT
GGAGAAGGATGGATGCTTCAGAAAGGGGACGTCTGTTGGATAAGCTTGCAGACTTGGTGGAACGGGACAG
GGCAGTTCTTGCAACCATGGAATCCCTAAATGGTGGCAAACCATTCCTGCAAGCTTTTTATGTGGATTTG
CAGGGCGTCATCAAAACCTTTCGATATTACGCAGGCTGGGCTGATAAAATTCATGGGATGACCATTCCTG
TAGATGGAGACTATTTTACCTTTACAAGACATGAACCCATTGGAGTGTGTGGACAGATCATCCCATGGAA
CTTCCCCCTGCTGATGTTTGCCTGGAAAATAGCTCCAGCTTTGTGCTGTGGCAATACAGTAGTTATTAAG
CCAGCAGAGCAAACACCACTCAGTGCACTCTACATGGGAGCCCTCATCAAGGAGGTTGGAAAGCTTATCC
AAGAAGCAGCTGGAAGAAGTAATTTGAAGAGAGTAACTCTGGAACTTGGAGGCAAAAGTCCTAATATTAT
TTTTGCTGATGCTGACTTGGACTATGCTGTGGAGCAGGCCCACCAGGGTGTGTTCTTCAATCAAGGTCAG
TGCTGCACTGCAGGCTCTCGCATCTTCGTGGAGGAGTCCATCTATGAGGAGTTTGTGAGAAGAAGCGTGG
AGCGGGCCAAGAGGCGCGTAGTGGGGAGTCCCTTTGACCCCACCACTGAGCAGGGTCCCCAGATTGATAA
GAAACAGTACAACAAGATCTTGGAACTCATCCAGAGTGGTGTGGCTGAGGGCGCCAAGCTGGAATGTGGA
GGCAAAGGACTGGGCCGAAAGGGGTTTTTCATTGAGCCCACAGTGTTTTCCAACGTCACTGATGATATGC
GGATTGCCAAGGAGGAGATCTTTGGCCCTGTTCAGGAAATTTTGAGATTTAAGACGATGGATGAAGTTAT
CGAAAGAGCCAATAACTCAGACTTTGGACTCGTAGCAGCTGTCTTTACTAATGACATCAACAAGGCCCTC
ACAGTGTCTTCTGCAATGCAAGCTGGGACTGTTTGGATCAATTGTTACAATGCCTTAAATGCCCAGAGCC
CCTTTGGGGGATTCAAGATGTCTGGAAATGGGAGAGAAATGGGAGAATTTGGCTTGCGGGAGTACTCAGA
AGTTAAGACGGTGACAGTAAAGATCCCCCAGAAGAACTCC

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:**

>RC205342 protein sequence
Red=Cloning site Green=Tags(s)

MTSSKIEMPGEVKADPAALMASLHLLPSPTPNLEIKYTKIFINNEWQNSESGRVFPVYNPATGEQVCEVQ
EADKADIDKAVQAARLAFSLGSVWRRMDASERGRLLDKLADLVERDRAVLATMESLNGGKPFLQAFYVDL
QGVIKTFRYYAGWADKIHGMTIPVDGDYFTFTRHEPIGVCGQIIPWNFPLLMFAWKIAPALCCGNTVVIK
PAEQTPLSALYMGALIKEVGKLIQEAAGRSNLKRVTLELGGKSPNIIFADADLDYAVEQAHQGVFFNQGQ
CCTAGSRIFVEESIYEEFVRRSVERAKRRVVGSPFDPTTEQGPQIDKKQYNKILELIQSGVAEGAKLECG
GKGLGRKGFFIEPTVFSNVTDDMRIAKEEIFGPVQEILRFKTMDEVIERANNSDFGLVAAVFTNDINKAL
TVSSAMQAGTVWINCYNALNAQSPFGGFKMSGNGREMGEFGLREYSEVKTVTVKIPQKNS

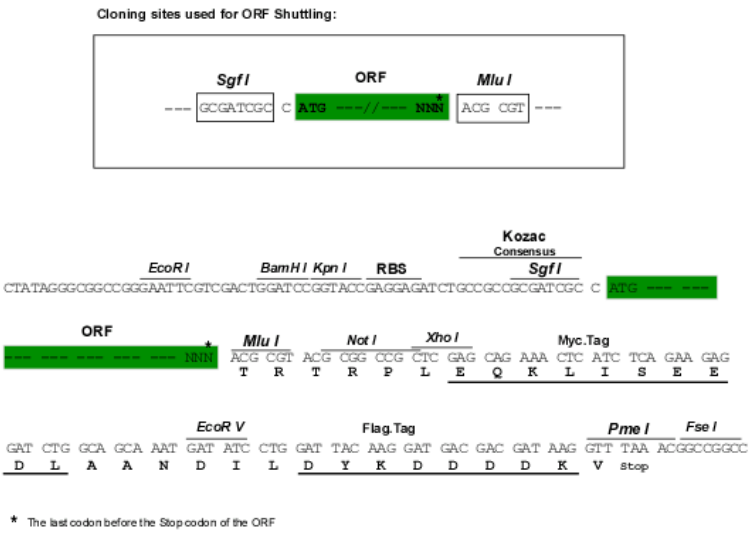
TRTRPLEQKLISEEDLAANDILDYKDDDDKV

**Chromatograms:** https://cdn.origene.com/chromatograms/mk6028_b09.zip

**Restriction Sites:** SgfI-MluI

This product is to be used for laboratory only. Not for diagnostic or therapeutic use.
©2023 OriGene Technologies, Inc., 9620 Medical Center Drive, Ste 200, Rockville, MD 20850, US

**Cloning Scheme:**




**ACCN:** NM_170696

**ORF Size:** 1440 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_170696.3

**RefSeq Size:** 3492 bp

**RefSeq ORF:** 1443 bp

**Locus ID:** 8854

**UniProt ID:** O94788

**Cytogenetics:** 15q21.3

This product is to be used for laboratory only. Not for diagnostic or therapeutic use.
©2023 OriGene Technologies, Inc., 9620 Medical Center Drive, Ste 200, Rockville, MD 20850, US

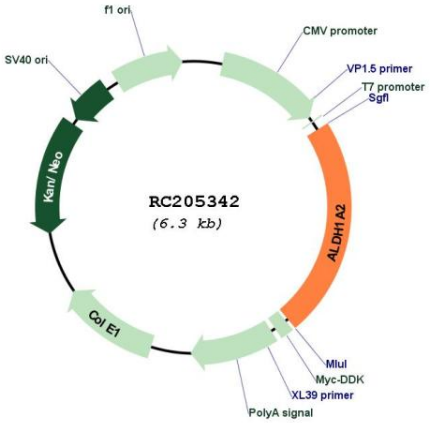
**Protein Families:** Druggable Genome

**Protein Pathways:** Metabolic pathways, Retinol metabolism

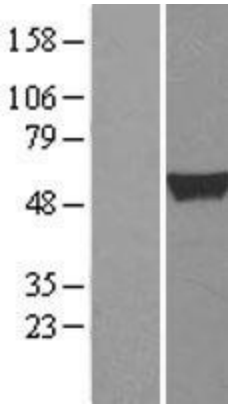
**MW:** 53.1 kDa

**Gene Summary:** This protein belongs to the aldehyde dehydrogenase family of proteins. The product of this gene is an enzyme that catalyzes the synthesis of retinoic acid (RA) from retinaldehyde. Retinoic acid, the active derivative of vitamin A (retinol), is a hormonal signaling molecule that functions in developing and adult tissues. The studies of a similar mouse gene suggest that this enzyme and the cytochrome CYP26A1, concurrently establish local embryonic retinoic acid levels which facilitate posterior organ development and prevent spina bifida. Four transcript variants encoding distinct isoforms have been identified for this gene. [provided by RefSeq, May 2011]

## Product images:

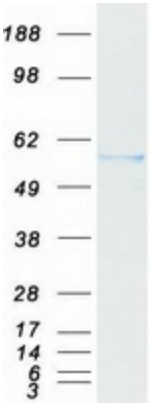



Circular map for RC205342




Western blot validation of overexpression lysate (Cat# [LY403525]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from un-transfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC205342 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).

This product is to be used for laboratory only. Not for diagnostic or therapeutic use.
©2023 OriGene Technologies, Inc., 9620 Medical Center Drive, Ste 200, Rockville, MD 20850, US




Coomassie blue staining of purified ALDH1A2 protein (Cat# [TP305342]). The protein was produced from HEK293T cells transfected with ALDH1A2 cDNA clone (Cat# RC205342) using MegaTran 2.0 (Cat# [TT210002]).

This product is to be used for laboratory only. Not for diagnostic or therapeutic use.
©2023 OriGene Technologies, Inc., 9620 Medical Center Drive, Ste 200, Rockville, MD 20850, US