

## Product datasheet for **RR201592**

### **Abcd1 (NM\_001108821) Rat Tagged ORF Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	Abcd1 (NM_001108821) Rat Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Abcd1
Synonyms:	RGD1562128
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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**ORF Nucleotide Sequence:**

>RR201592 representing NM\_001108821  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**GCGATCGCC**

ATGCCGCTACTCTCCACTCCCTCCCGGCCCTCGCGGGTGACCACGCTTAAGCGCACAGCTGTGGTCTGG  
 CCCTCACAGCCTATGGAGTCCACAAAATCTACCCTCTAGTACGGCAGTGTCTGACTCCTGCCAGAGGTCC  
 TCAGGTGCCAGCTGGGGAGTCCACGCAAGAGGCCCTCTGGGGCCACCACAGCCAAGGCTGGCATGAACCGG  
 GTATTCCTGCAGCGGCTCCTGGTCTCCTGAGGCTGCTGTTCCCGGAGTCTTGTGCCGGGAAACAGGGC  
 TACTGGCCCTGCATTCTGCTGCCCTGGTAAGCCGAACCTTCTGTCTGTGTATGTTGCCCGCTGGACGG  
 CAGACTGGCCCGCTGCATTGTACGTAAGGACCCAAGGGCCTTTAGCTGGCAACTGCTGCAGTGGCTCCTC  
 ATCGCCCTTCTGCCACTTTCATCAACAGTGCCATCCGCTACCTAGAGGGCCAGCTGGCTCTTTCTTTCC  
 GAAGCCGTCTAGTAGCTCATGCCTATGGCCTCTACTTCTCCAGCAGACTTACTACCGAGTAAGCAACAT  
 GGATGGACGGCTTCGAAACCCTGACCAGTCTCTGACAGAGGATATGGTAGCCTTTGCTGCTTCTGTAGCC  
 CACCTTTATTCCAACCTGACCAAGCCACTCCTGGATGTGGCTGTGACCTCCTACACTCTTCTTCGAGCTG  
 CCCGATCCCGAGGAGCTGGTACAGCCTGGCCCTCAGCCATCGCTGGCCTGGTGGTGTTCCTCACAGCCAA  
 CGTGCTTCGAGCCTTCTCTCCAAGTTTGGGGAGCTAGTGGCAGAGGAGGCACGGCGAAAGGGGAACTG  
 CGCTACATGCACTCTCGAGTGGTGGCCAACTCAGAGGAAATTGCCTTCTACGGGGCCATGAGGTAGAGC  
 TGGCACTACTACAACACTCCTATCAAGACTGGCTTACAGATCAACCTCATCCTCTAGAACGCCTGTG  
 GTATGTCATGCTAGAAGCTTCCATGAAATATGTGTGGAGTGCATCTGGCCTGCTCATGGTAGCTGTC  
 CCCATCATCACAGCCACTGGCTATGCAGAGTCAGACTCAGAAGCCATGAAAAAGGCAGCCTTAGAAATGA  
 AGGAAGAGGAGCTGGTTAGTGAACGTACAGAAGCCTTACCATTGCCGAAACCTCCTCACAGCTGCTGC  
 AGATGCCACTGAGAGGATCATGTATCCTACAAGGAGGTGACAGAGCTGGCTGGCTACACAGCCAGGGTG  
 TACGAGATGTTCCAGGATTTGAAGATGTCCAACACTGTCGTTTTAAGAGGACAGGAGATCTAGAGGAGG  
 CTCAGGCTGGGCCTGGTCCATGGTGCATTCTGGTGTTCATATAGAAGGGCCCTGAAGATCCAAGGCCA  
 GGTGGTGGATGTGGAGCAGGGGATCATCTGTGAGAACATCCCTATCATCACCCACTGGAGAGGTGGT  
 GTGGCCAGCCTCAACATCAGGGTGGAGGAAGGCATGCACCTGCTCATCACAGGCCCAATGGCTGCGGCA  
 AGATTCTCTGTTCCGAATCCTAGGTGGACTCTGGCCAACATACAGTGGGTACTCTATAAGCCCCACC  
 CCAGCGCATGTTCTATATCCCTCAGAGGCCCTACATGTCCGTGGGCTCCTTGCCTGACCAAGTGATCTAT  
 CCTGACTCTGCGAAGACATGCGGAGGAAGGGCTGCTCGGAGCAGCAGCTGGAAGCCATCCTGGGCATCG  
 TGCATCTCCGACACATCCTGCAACGGGAGGGAGGTTGGGAGGCTGTGTGTGACTGGAAGGACGCTCTTC  
 TGGTGGTGAAGCAGAGGATTGGTATGGCGCGCATGTTCTATCACAGGCCCAAGTACGCCCTCCTGGAT  
 GAGTGCCTAGTGCCGTGAGCATTGATGTGGAAGGCAAGATCTTCCAAGCAGCCAAAGATGCTGGTATCT  
 CACTGTGTCCATCACCCATCGACCCTCCCTATGGAAGTACCACACACTTGTGTCAGTTTGTGGGGA  
 GGGAGGCTGGAAGTTTGAAGCTGGATTCTGTGCCCCGCTGAGCCTGACTGAAGAGAAGCAGCGCCTG  
 GAGCAGCAACTGGCAGGCATCCCTAAGATGCAGGGGCGCCTTACAGGAGCTCCGCCAGATCCTTGGCGAAG  
 CTGCAGCCCCAGTTCAACCTCTGGTCCCAGGCATCCCCACT

**ACGCGT**ACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:** >RR201592 representing NM\_001108821  
Red=Cloning site Green=Tags(s)

```
MPVLSTPSRPSRVTTLKRTAVVLALTAYGVHKIYPLVRQCLTPARGPQVPAGESTQEASGATTAKAGMNR
VFLQRLVLLRLLFPGVLCRETGLLALHSAALVSRTFLSVYVARLDGRLARCIVRKDPRAFQWLLQWLL
IALPATFINSAIRYLEGQLALSFRSRLVAHAYGLYFSQQTYRVSNM DGR LRNP DQSLTEDMVAFAASVA
HLYSNLTKPLLDVAVTSYTLRAARSRGAGTAWPSAIAGLVVFLTANVLR AFSPKFGELVAEEARRK GEL
RYMHSRVVANSEEIAFYGGHEVELALLQHSYQDLASQINLILLERLWYVMLEQFLMKYVWSASGLLMVAV
PIITATGYAESDSEAMKKALEMKEEELVSETEAFTIARNLLTAAADATERIMSSYKEVTELAGYTARV
YEMFQVFEDVQHCRCRKTGDLEEAQAGPGSMVHSGVHIEGPLKIQQQVVDVEQGIICENIPIITPTGEVV
VASLNIRVEEGMHLLITGPNCGKSSLFRLGGLWPTYSGVLKPPPQRMFYIPQRPYMSVGLRDQVIY
PDSAEDMRKGCSEQQLEAILGIVHLRHILQREGGWEAVCDWKDVL SGGEKQRIGMARMFYHRPKYALLD
ECTSAVSIDVEGKIFQA AKDAGISLLSI THRPSLWKYHTHLLQFDGEGGWKFEKLSAARLSL TEEKQRL
EQQLAGIPKMQGRLQELRQILGEAAAPVQPLVPGIPT
```

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

**Restriction Sites:** SgfI-MluI

**Cloning Scheme:**

Cloning sites used for ORF Shuttling:



\* The last codon before the Stop codon of the ORF

**ACCN:** NM\_001108821

**ORF Size:** 2211 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\\_001108821.1](#), [NP\\_001102291.1](#)

**RefSeq Size:** 3411 bp

**RefSeq ORF:** 2214 bp

**Locus ID:** 363516

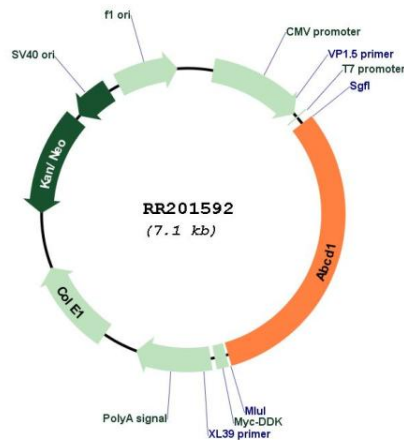
**UniProt ID:** [D3ZHR2](#)

**Cytogenetics:** Xq37

**MW:** 81.9 kDa

**Gene Summary:** Plays a role in the transport of free very-long-chain fatty acids (VLCFAs) as well as their CoA-esters across the peroxisomal membrane by acting as an ATP-specific binding subunit releasing ADP after ATP hydrolysis (PubMed:12176987). Thus, plays a role in regulation of VLCFAs and energy metabolism namely, in the degradation and biosynthesis of fatty acids by beta-oxidation, mitochondrial function and microsomal fatty acid elongation (PubMed:25043761). Involved in several processes; namely, controls the active myelination phase by negatively regulating the microsomal fatty acid elongation activity and may also play a role in axon and myelin maintenance. Controls also the cellular response to oxidative stress by regulating mitochondrial function like, mitochondrial oxidative phosphorylation and depolarization. And finally controls the inflammatory response by positively regulating peroxisomal beta-oxidation of VLCFAs (By similarity).[UniProtKB/Swiss-Prot Function]

### Product images:



Circular map for RR201592