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 SC314625

Aspartate beta hydroxylase (ASPH) (NM_004318) Human Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Aspartate beta hydroxylase (ASPH) (NM_004318) Human Untagged Clone
Tag:	Tag Free
Symbol:	Aspartate beta hydroxylase
Synonyms:	AAH; BAH; CASQ2BP1; FDLAB; HAAH; JCTN; junctin
Mammalian Cell Selection:	None
Vector:	pCMV6-XL4
E. coli Selection:	Ampicillin (100 ug/mL)

View online »

Fully Sequenced ORF:

```
>OriGene ORF sequence for NM_004318 edited
ATGGCCCAGCGTAAGAATGCCAAGAGCAGCGGCAACAGCAGCAGCAGCGGCTCCGGCAGC
GGTAGCACGAGTGCGGGCAGCAGCAGCCCCGGGGCCCGGAGAGAGACAAAGCATGGAGGA
CACAAGAATGGGAGGAAAGGCGGACTCTCAGGAACTTCATTCTTCACGTGGTTTATGGTG
ATTGCATTGCTGGGCGTCTGGACATCTGTAGCTGTCGTTTGGTTTGATCTTGTTGACTAT
GAGGAAGTTCTAGGAAAACTAGGAATCTATGATGCTGATGGTGATGGAGATTTTGATGTG
GATGATGCCAAAGTTTTATTAGGACTTAAAGAGAGATCTACTTCAGAGCCAGCAGTCCCG
CCAGAAGAGGCTGAGCCACACACTGAGCCCGAGGAGCAGGTTCCTGTGGAGGCAGAACCC
CAGAATATCGAAGATGAAGCAAAAGAACAAATTCAGTCCCTTCTCCATGAAATGGTACAC
GCAGAACATGTTGAGGGAGAAGACTTGCAACAAGAAGATGGACCCACAGGAGAACCACAA
CAAGAGGATGATGAGTTTCTTATGGCGACTGATGTAGATGATAGATTTGAGACCCTGGAA
CCTGAAGTATCTCATGAAGAAACCGAGCATAGTTACCACGTGGAAGAGACAGTTTCACAA
GACTGTAATCAGGATATGGAAGAGATGATGTCTGAGCAGGAAAATCCAGATTCCAGTGAA
CCAGTAGTAGAAGATGAAAGATTGCACCATGATACAGATGATGTAACATACCAAGTCTAT
GAGGAACAAGCAGTATATGAACCTCTAGAAAATGAAGGGATAGAAATCACAGAAGTAACT
GCTCCCCCTGAGGATAATCCTGTAGAAGATTCACAGGTAATTGTAGAAGAAGTAAGCATT
TTTCCTGTGGAAGAACAGCAGGAAGTACCACCAGAAACAAATAGAAAAACAGATGATCCA
GAACAAAAAGCAAAAGTTAAGAAAAAGAAGCCTAAACTTTTAAATAAATTTGATAAGACT
ATTAAAGCTGAACTTGATGCTGCAGAAAAACTCCGTAAAAGGGGAAAAATTGAGGAAGCA
GTGAATGCATTTAAAGAACTAGTACGCAAATACCCTCAGAGTCCACGAGCAAGATATGGG
AAGGCGCAGTGTGAGGATGATTTGGCTGAGAAGAGGAGAAGTAATGAGGTGCTACGTGGA
GCCATCGAGACCTACCAAGAGGTGGCCAGCCTACCTGATGTCCCTGCAGACCTGCTGAAG
CTGAGTTTGAAGCGTCGCTCAGACAGGCAACAATTTCTAGGTCATATGAGAGGTTCCCTG
CTTACCCTGCAGAGATTAGTTCAACTATTTCCCAATGATACTTCCTTAAAAAATGACCTT
GGCGTGGGATACCTCTTGATAGGAGATAATGACAATGCAAAGAAAGTTTATGAAGAGGTG
CTGAGTGTGACACCTAATGATGGCTTTGCTAAAGTCCATTATGGCTTCATCCTGAAGGCA
CAGAACAAAATTGCTGAGAGCATCCCATATTTAAAGGAAGGAATAGAATCCGGAGATCCT
GGCACTGATGATGGGAGATTTTATTTCCACCTGGGGGATGCCATGCAGAGGGTTGGGAAC
AAAGAGGCATATAAGTGGTATGAGCTTGGGCACAAGAGAGGACACTTTGCATCTGTCTGG
CAACGCTCACTCTACAATGTGAATGGACTGAAAGCACAGCCTTGGTGGACCCCAAAAGAA
ACGGGCTACACAGAGTTAGTAAAGTCTTTAGAAAGAAACTGGAAGTTAATCCGAGATGAA
GGCCTTGCAGTGATGGATAAAGCCAAAGGTCTCTTCCTGCCTGAGGATGAAAACCTGAGG
GAAAAAGGGGACTGGAGCCAGTTCACGCTGTGGCAGCAAGGAAGAAGAAATGAAAATGCC
TGCAAAGGAGCTCCTAAAACCTGTACCTTACTAGAAAAGTTCCCCGAGACAACAGGATGC
AGAAGAGGACAGATCAAATATTCCATCATGCACCCCGGGACTCACGTGTGGCCGCACACA
GGGCCCACAAACTGCAGGTTCCGAATGCACCTGGGCTTGGTGATTCCCAAGGAAGGCTGC
AAGATTCGATGTGCCAACGAGACCAAGACCTGGGAGGAAGGCAAGGTGCTCATCTTTGAT
GACTCCTTTGAGCACGAGGTATGGCAGGATGCCTCATCTTTCCGGCTGATATTCATCGTG
GATGTGTGGCATCCGGAACTGACACCACAGCAGAGACGCAGCCTTCCAGCAATTTAG
```

5' Read Nucleotide Sequence:

```
>OriGene 5' read for NM_004318 unedited
TTAGGCGGGCCGCGAATTCGCACGAGGGTCGCGTGTGTACCCCCGCGCACTGAAGGAGGT
CCACCAGCCCTCACCAGCCCCCGCGGACCGTGCAATGGCCCAGCGTAAGAATGCCAAGAG
CAGCGGCAACAGCAGCAGCAGCGGCTCCGGCAGCGGTAGCACGAGTGCGGGCAGCAGCAG
CCCCGGGGCCCGGAGAGAGACAAAGCATGGAGGACACAAGAATGGGAGGAAAGGCGGACT
CTCAGGAACTTCATTCTTCACGTGGTTTATGGTGATTGCATTGCTGGGCGTCTGGACATC
TGTAGCTGTCGTTTGGTTTGATCTTGTTGACTATGAGGAAGTTCTAGGAAAACTAGGAAT
CTATGATGCTGATGGTGATGGAGATTTTGATGTGGATGATGCCAAAGTTTTATTAGGACT
TAAAGAGAGATCTACTTCAGAGCCAGCAGTCCCGCCAGAAGAGGCTGAGCCACACACTGA
GCCCGAGGAGCAGGTTCCTGTGGAGGCAGAACCCCAGAATATCGAAGATGAAGCAAAAGA
ACAAATTCAGTCCCTTCTCCATGAAATGGTACACGCAGAACATGTTGAGGGAGAAGACTT
GCAACAAGAAGATGGACCCACAGGAGAACCACAACAAGAGGATGATGAGTTTCTTATGGC
GACTGATGTAAATGATAGATTTGAGACCCTGGNAACCTGAGTATCTCATGAAGAAACCGA
GCCTAGTTACCACGTGGNAAAGACAGTTTCCCAAGAACTGTATTCAGATATGGAAGAAAT
GATGTCTGAGCAGAAAATTCAGATTCCATGGACCCAGTAGTTAAAAATGAAGAATGCCCC
TGATACAGATGATTGTACTTACCAAGTCTATGAGGAAACAGCAGTTATGAACCCTTAAAA
ATGAAGGGAT
```

3' Read Nucleotide Sequence:

```
>Forward primer walk for NM_004318 unedited
CTGAGCCTTGGCACAAGAGAGGACACTTTGCATCTTGTCTGGCAACGCTCACTCTACAAT
GTGAATGGACTGAAAGCACAGCCTTGGTGGACCCCAAAAGAAACGGGCTACACAGAGTTA
GTAAAGTCTTTAGAAAGAAACTGGAAGTTAATCCGAGATGAAGGCCTTGCAGTGATGGAT
AAAGCCAAAGGTCTCTTCCTGCCTGAGGATGAAAACCTGAGGGAAAAAGGGGACTGGAGC
CAGTTCACGCTGTGGCAGCAAGGAAGAAGAAATGAAAATGCCTGCAAAGGAGCTCCTAAA
ACCTGTACCTTACTAGAAAAGTTCCCCGAGACAACAGGATGCAGAAGAGGACAGATCAAA
TATTCCATCATGCACCCCGGGACTCACGTGTGGCCGCACACAGGGCCCACAAACTGCAGG
TTCCGAATGCACCTGGGCTTGGTGATTCCCAAGGAAGGCTGCAAGATTCGATGTGCCAAC
GAGACCAAGACCTGGGAGGAAGGCAAGGTGCTCATCTTTGATGACTCCTTTGAGCACGAG
GTATGGCAGGATGCCTCATCTTTCCGGCTGATATTCATCGTGGATGTGTGGCATCCGGAA
CTGACACCACAGCAGAGACGCAGCCTTCCAGCAATTTAGCATGAATTCATGCAAGCTTGG
GAAACTCTGGAGAGAGGCTGCCTTTCTGGTTCCATCTCCTTGGGTGTGAGGATAGAATTT
CGAACACCAAGAGTCAATTCCCTTGACTTGCAGCCCGAGTAATTCAAGCCTCCTCCTAGG
GTCAGAGACACTAAGGGAATATTTGCCTCGCTGCATTCATTTAGAAACACCCTGCTGTGT
GTCATCTCATGACAGCACTGGTCTTCTGCCAGTATTTACGTGACATTTGATAGCTTCTAC
CTTACCAGCCAAGAATATTTTTTCCACATAGAATAGG
```

Restriction Sites: NotI-NotI

ACCN: NM_004318

Insert Size: 4800 bp

OTI Disclaimer: Our molecular clone sequence data has been matched to the reference identifier above as a point of reference. Note that the complete sequence of our molecular clones may differ from the sequence published for this corresponding reference, e.g., by representing an alternative RNA splicing form or single nucleotide polymorphism (SNP).

OTI Annotation: The open reading frame of this TrueClone was fully sequenced and found to have a single conservative amino acid difference from the protein associated to this reference.

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_004318.2, NP_004309.2

RefSeq Size: 2452 bp

RefSeq ORF: 2277 bp

Locus ID: 444

UniProt ID: Q12797

Cytogenetics: 8q12.3

Domains: TPR, Asp_Arg_Hydrox, Asp-B-Hydro_N

Protein Families: Druggable Genome, Transmembrane

Gene Summary: This gene is thought to play an important role in calcium homeostasis. The gene is expressed from two promoters and undergoes extensive alternative splicing. The encoded set of proteins share varying amounts of overlap near their N-termini but have substantial variations in their C-terminal domains resulting in distinct functional properties. The longest isoforms (a and f) include a C-terminal Aspartyl/Asparaginyl beta-hydroxylase domain that hydroxylates aspartic acid or asparagine residues in the epidermal growth factor (EGF)-like domains of some proteins, including protein C, coagulation factors VII, IX, and X, and the complement factors C1R and C1S. Other isoforms differ primarily in the C-terminal sequence and lack the hydroxylase domain, and some have been localized to the endoplasmic and sarcoplasmic reticulum. Some of these isoforms are found in complexes with calsequestrin, triadin, and the ryanodine receptor, and have been shown to regulate calcium release from the sarcoplasmic reticulum. Some isoforms have been implicated in metastasis. [provided by RefSeq, Sep 2009]
Transcript Variant: This variant (1) represents the longest transcript and encodes the longest isoform. The distinct C-terminus of this isoform has enzymatic activity which hydroxylates the beta carbon of aspartic acid or asparagine residues in certain epidermal growth factor-like domains of proteins such as protein C, coagulation factors VII, IX, and X, and the complement factors C1R and C1S. This variant is widely expressed among heart, placenta, skeletal muscle, kidney, and lung tissues.