

Product datasheet for **RC201998**

DBT (NM_001918) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	DBT (NM_001918) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	DBT
Synonyms:	BCATE2; BCKAD-E2; BCKADE2; BCKDH-E2; BCOADC-E2; E2; E2B
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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ORF Nucleotide Sequence:

>RC201998 ORF sequence
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**GCGATCGCC**

ATGGCTGCAGTCCGTATGCTGAGAACCTGGAGCAGGAATGCGGGGAAGCTGATTTGTGTTGCTATTTTC
 AAACATGTGGTAATGTTTCATGTTTTGAAGCCAAATATGTGTGTTTCTTTGGTTATCCTTCAAGTA
 TAGTCATCCACATCACTTCTGAAAACAACTGCTGCTCCGTGGACAGGTTGTTCAAGTCAAGCTCTCA
 GACATTGGAGAAGGGATTAGAGAAGTAAGTGTAAAGAATGGTATGTAAGAAGGAGATACAGTGTCTC
 AGTTTGTAGCATCTGTGAAGTTCAAAGTGATAAAGCTTCTGTTACCATCACTAGTCGTTATGATGGAGT
 CATTAAAAAACTCTATTATACTAGACGATATTGCCTATGTGGGGAAGCCATTAGTAGACATAGAAACG
 GAAGCTTTAAAAGATTGAGAAGAAGATGTTGTTGAAACTCCTGCAGTGTCTCATGATGAACATACACACC
 AAGAGATAAAGGGCCGAAAAACTGGCAACTCCTGCAGTTCGCCGTCTGGCAATGGAAAAAATATTAA
 GCTGAGTGAAGTTGTTGGCTCAGGAAAAGATGGCAGAATACTTAAGAAGATATCCTCAACTATTTGGAA
 AAGCAGACAGGAGCTATATTGCCTCCTTACCCAAAGTTGAAATTATGCCACCTCCACCAAGCCAAAAG
 ACATGACTGTTCTATACTAGTATCAAAACCTCCGGTATTCACAGGCAAAGACAAAAACAGAACCCATAAA
 AGGCTTTCAAAAAGCAATGGTCAAGACTATGTCTGCAGCCCTGAAGATACCTCATTTTGGTTATTGTGAT
 GAGATTGACCTTACTGAACTGGTTAAGCTCCGAGAAGAATTAACCCATTGCATTTGCTCGTGGAAATTA
 AACTCTCCTTTATGCCTTTCTTCTAAAGGCTGCTTCTTGGGATTACTACAGTTTCTATCCTTAACGC
 TTCTGTGGATGAAAACCTGCCAGAATAACATAAAGGCTTCTCATAACATTGGGATAGCAATGGACT
 GAGCAGGTTTGGATTGTCCTAATGTGAAAATGTTGAGTCTGCTCTATATTGACATGCCACTGAAC
 TGAACCGCTCCAGAAATTGGGCTCTGTGGGTCAGCTCAGCACCCTGATCTTACAGGAGGAAACATTTAC
 TCTTTCCAACATTGGATCAATTGGTGGTACCTTTGCCAAACAGTGATAATGCCACTGAAGTAGCCATT
 GGGGCCCTTGGATCAATTAAGGCCATTCCCGATTTAACCAGAAAGGAGAAGTATAAAGGCACAGATAA
 TGAATGTGAGCTGGTCAAGTATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGAT
 GAAATCTATTTAGAAAACCCAGCTTTTATGCTACTAGATCTGAAA

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>RC201998 protein sequence
 Red=Cloning site Green=Tags(s)

MAAVRMLRTWSRNAGKLICVRYFQTCGNVHVLKPNYVCFYGYPSFKYSHPHFLKTTAALRGQVVQFKLS
 DIGEGIREVTVKEWYVKEGDTVVSQFDSICEVQSDKASVTITSRYDGVIKKLYNLDIAYVGKPLVDIET
 EALKDSEEDVVETPAVSHDEHTHQEIKGRKTLATPAVRRLAMENNIKLEVVVSGKDRILKEDILNYLE
 KQTGAILPPSPKVEIMPPPKPKDMTPVILVSKPPVFTGKDKTEPIKGFQKAMVKTMSAALKIPHFGYCD
 EIDLTELVLKREELKPIAFARGIKLSFMPFFLKAASLGLLQFPILNASVDENCQNITYKASHNIGIAMDT
 EQGLIVPNVKNVQICSIFDIA TELNRLQKLGSVGQLSTTDLTGGTFTLSNIGSIGGTFAPKVPIMPPEVAI
 GALGSIKAIIPRFNQKGEVYKAQIMNVSWSADHRVIDGATMSRFSNLWKSYLENPAFMLLDLK

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms:

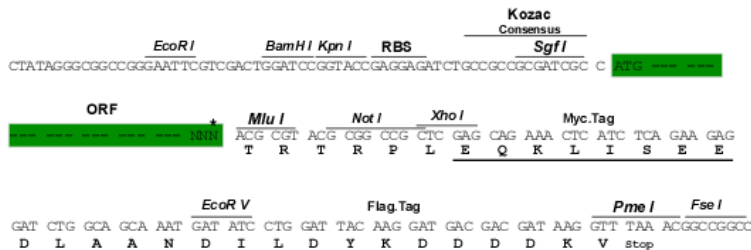
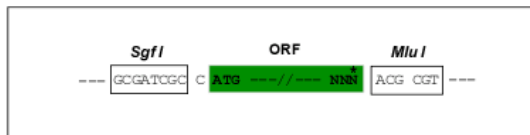
https://cdn.origene.com/chromatograms/mk6310_a06.zip

Restriction Sites:

Sgfl-Mlul

Cloning Scheme:

Cloning sites used for ORF Shutting:



* The last codon before the Stop codon of the ORF

ACCN: NM_001918

ORF Size: 1446 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_001918.4](#)
RefSeq Size: 10831 bp

RefSeq ORF: 1449 bp

Locus ID: 1629

UniProt ID: [P11182](#)
Cytogenetics: 1p21.2

Domains: biotin_lipoyl, 2-oxoacid_dh, e3_binding

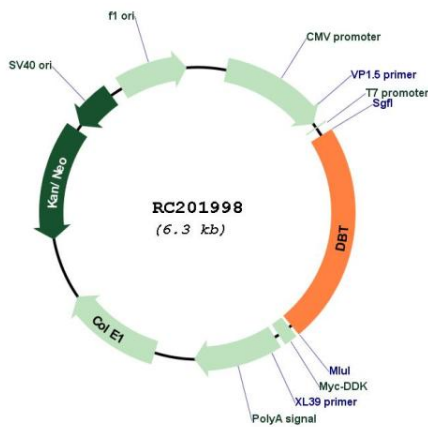
Protein Families: Druggable Genome

Protein Pathways: Metabolic pathways, Valine, leucine and isoleucine degradation

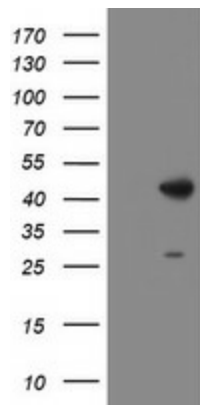
MW: 53.5 kDa

Gene Summary: The branched-chain alpha-keto acid dehydrogenase complex (BCKD) is an inner-mitochondrial enzyme complex involved in the breakdown of the branched-chain amino acids isoleucine, leucine, and valine. The BCKD complex is thought to be composed of a core of 24 transacylase (E2) subunits, and associated decarboxylase (E1), dehydrogenase (E3), and regulatory subunits. This gene encodes the transacylase (E2) subunit. Mutations in this gene result in maple syrup urine disease, type 2. Alternatively spliced transcript variants have been described, but their biological validity has not been determined. [provided by RefSeq, Jul 2008]

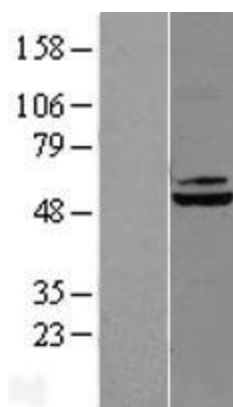
Product images:



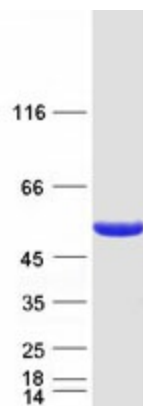
Circular map for RC201998



HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY DBT (Cat# RC201998, Right lane) cDNA for 48 hrs and lysed. Equivalent amounts of cell lysates (5 ug per lane) were separated by SDS-PAGE and immunoblotted with anti-DBT (Cat# [TA504748]). Positive lysates [LY419653] (100ug) and [LC419653] (20ug) can be purchased separately from OriGene.



Western blot validation of overexpression lysate (Cat# [LY419653]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC201998 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified DBT protein (Cat# [TP301998]). The protein was produced from HEK293T cells transfected with DBT cDNA clone (Cat# RC201998) using MegaTran 2.0 (Cat# [TT210002]).