

Product datasheet for **RC203872**

Stefin B (CSTB) (NM_000100) Human Tagged ORF Clone

Product data:

Product Type: Expression Plasmids
Product Name: Stefin B (CSTB) (NM_000100) Human Tagged ORF Clone
Tag: Myc-DDK
Symbol: Stefin B
Synonyms: CPI-B; CST6; EPM1; EPM1A; PME; STFB; ULD
Mammalian Cell Selection: Neomycin
Vector: pCMV6-Entry (PS100001)
E. coli Selection: Kanamycin (25 ug/mL)
ORF Nucleotide Sequence: >RC203872 ORF sequence
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGGATCGCC**

ATGATGTGCGGGGCGCCCTCCGCCACGCAGCCGGCCACCGCCGAGACCCAGCACATCGCCGACCAGGTGA
GGTCCCAGCTTGAAGAGAAAGAAAACAAGAAGTCCCTGTGTTTAAAGCCGTGTCATTCAAGAGCCAGGT
GGTCGCGGGGACAACTACTTCATCAAGGTGCACGTGGCGACGAGGACTTCGTACACCTGCGAGTGTTCC
CAATCTCTCCCTCATGAAAACAAGCCCTTGACCTTATCTAACTACCAGACCAACAAGCCAAGCATGATG
AGCTGACCTATTTCC

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence: >RC203872 protein sequence
Red=Cloning site Green=Tags(s)
MMCGAPSATQPATAETQHIADQVRSQLEEKENKKFPVFKAVSFKSQVVAGTNYFIKVHVHGEDDFVHLRVF
QSLPHENKPLTLSNYQTNKAKHDELTYF

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms: https://cdn.origene.com/chromatograms/mk6212_d03.zip

Restriction Sites: SgfI-MluI



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Cloning Scheme:


ACCN: NM_000100

ORF Size: 294 bp

OTI Disclaimer: Due to the inherent nature of this plasmid, standard methods to replicate additional amounts of DNA in E. coli are highly likely to result in mutations and/or rearrangements. Therefore, OriGene does not guarantee the capability to replicate this plasmid DNA. Additional amounts of DNA can be purchased from OriGene with batch-specific, full-sequence verification at a reduced cost. Please contact our customer care team at custsupport@origene.com or by calling 301.340.3188 option 3 for pricing and delivery.

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.

Note: Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required.

RefSeq: [NM_000100.4](#)

RefSeq Size: 940 bp

RefSeq ORF: 297 bp

Locus ID: 1476

UniProt ID: [P04080](#)

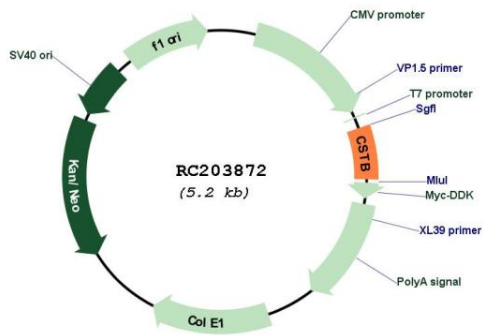
Cytogenetics: 21q22.3

Domains: CY

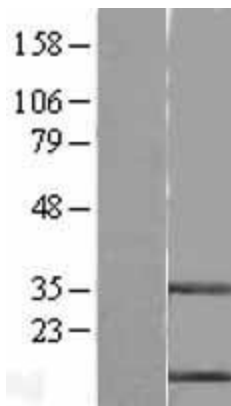
MW: 11.1 kDa

Gene Summary: The cystatin superfamily encompasses proteins that contain multiple cystatin-like sequences. Some of the members are active cysteine protease inhibitors, while others have lost or perhaps never acquired this inhibitory activity. There are three inhibitory families in the superfamily, including the type 1 cystatins (stefins), type 2 cystatins and kininogens. This gene encodes a stefin that functions as an intracellular thiol protease inhibitor. The protein is able to form a dimer stabilized by noncovalent forces, inhibiting papain and cathepsins I, h and b. The protein is thought to play a role in protecting against the proteases leaking from lysosomes. Evidence indicates that mutations in this gene are responsible for the primary defects in patients with progressive myoclonic epilepsy (EPM1). One type of mutation responsible for EPM1 is the expansion in the promoter region of this gene of a CCCC GCCCGCG repeat from 2-3 copies to 30-78 copies. [provided by RefSeq, Jul 2016]

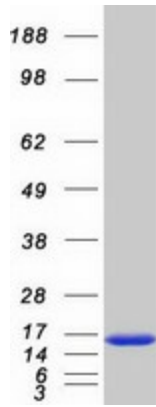
Product images:



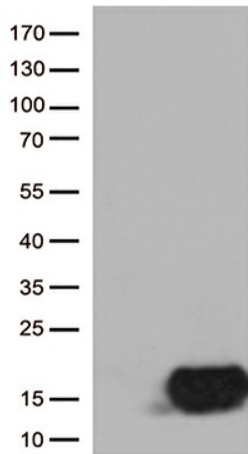
Circular map for RC203872



Western blot validation of overexpression lysate (Cat# [LY424918]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC203872 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified CSTB protein (Cat# [TP303872]). The protein was produced from HEK293T cells transfected with CSTB cDNA clone (Cat# RC203872) using MegaTran 2.0 (Cat# [TT210002]).



HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY CSTB (Cat# RC203872, 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-CSTB (Cat# [TA813050])(1:500). Positive lysates [LY424918] (100ug) and [LC424918] (20ug) can be purchased separately from OriGene.