

Product datasheet for **RC208749**

SMAD3 (NM_005902) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	SMAD3 (NM_005902) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	SMAD3
Synonyms:	HSPC193; HsT17436; JV15-2; LDS1C; LDS3; MADH3
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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ORF Nucleotide Sequence:

>RC208749 representing NM_005902
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCCCGGATCGCC

ATGTCGTCATCCTGCTCCCTTTCACTCCCCGATCGTGAAGCGCCTGCTGGGCTGGAAGAAGGGCGAGCAGA
 ACGGGCAGGAGGAGAAATGGTGCAGAGAAGCGCGTCAAGAGCCTGGTCAAGAACTCAAGAAGACGGGCA
 GCTGGACGAGCTGGAGAAGGCCATCACCACGCAGAACGTCAACACCAAGTGCATCACCATCCCCAGGTCC
 CTGGATGGCCGGTTGCAGGTGTCCATCGGAAGGGGCTCCCTCATGTCATCTACTGCCGCTGTGGCGAT
 GGCCAGACCTGCACAGCCACCACGAGCTGCGGGCCATGGAGCTGTGTGAGTTCGCCTTCAATATGAAGAA
 GGACGAGGTCTGCGTGAATCCCTACCACTACCAGAGAGTAGAGACACCAGTTCTACCTCCTGTGTTGGTG
 CCACGCCACACAGAGATCCCGCCGAGTCCCCCACTGGACGACTACAGCCATTCATCCCCGAAAACA
 CTAACCTCCCCGAGGCATCGAGCCCAGAGCAATATCCAGAGACCCACCCCTGGCTACCTGAGTGA
 AGATGGAGAAACAGTGACCACCAGATGAACCACAGCATGGACGCAGGTTCTCAAACCTATCCCCGAAT
 CCGATGTCCCCAGCACATAATAACTTGGACCTGCAGCCAGTTACCTACTGCGAGCCGGCCTTCTGGTGTCT
 CCATCTCTACTACGAGCTGAACCAGCGCGTGGGGAGACATTCCACGCCTCGCAGCCATCCATGACTGT
 GGATGGCTTACCGACCCCTCCAATTCCGAGCGCTTCTGCCTAGGGCTGCTCTCCAATGTCAACAGGAAT
 GCAGCAGTGGAGCTGACACGGAGACACATCGGAAGAGGCGTGGGCTCTACTACATCGGAGGGGAGGTCT
 TCGCAGAGTGCCTCAGTGACAGCGCTATTTTTGTCCAGTCTCCAACCTGTAACCAGCGCTATGGCTGGCA
 CCCGGCCACCGTCTGCAAGATCCCACAGGATGCAACCTGAAGATCTTCAACAACCAGGAGTTCGCTGCC
 CTCCTGGCCAGTCGGTCAACCAGGGCTTTGAGGCTGTCTACCAGTTGACCCGAATGTGCACCATCCGCA
 TGAGCTTCGTCAAAGGCTGGGGAGCGGAGTACAGGAGACAGACTGTGACCAGTACCCCTGCTGGATTGA
 GCTGCACCTGAATGGCCCTTTCAGTGGCTTGACAAGGTCTCACCCAGATGGGCTCCCCAAGCATCCGC
 TGTCCAGTGTGTCT

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>RC208749 representing NM_005902
 Red=Cloning site Green=Tags(s)

MSSILPFPPIVKRLLGWKKGEQNGQEEKWCEKAVKSLVKLLKKTGQLDELEKAITTQNVNTKCITIPRS
 LDGRLQVSHRGLPHVIYCLWRWPDLSHHELRAMELCEFAFNMKKDEVCVNPHYHQRVETPVLPPVLV
 PRHTEIPAEPPLDDYSHSIPENTNFPAGIEPQSNIPETPPPGYLSEDGETSDHQMNHSM DAGSPNLSPN
 PMSPAHNLDLQPVTYCEPAFWCSISYYELNQRVGETFHASQPSMTVDGFTDPSNSERFCLGLLSNVNRN
 AAVELTRRHIGRGVRLYYIGGEVFAECLSDSAIFVQSPNCNQRYGWHPATVCKIIPGCNLKIFNNQEFAA
 LLAQSVNQFEAVYQLTRMCTIRMSFVKGWGAERYRQTVTSTPCWIELHLNGLQWLDKVLTMGSPSIR
 CSSVS

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms:

https://cdn.origene.com/chromatograms/mg2637_b09.zip

Restriction Sites:

SgfI-MluI

Cloning Scheme:


ACCN: NM_005902

ORF Size: 1275 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.

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

RefSeq: [NM_005902.2](#)

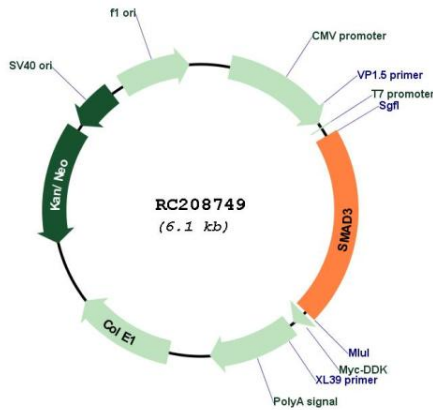
RefSeq Size: 6256 bp

RefSeq ORF: 1278 bp

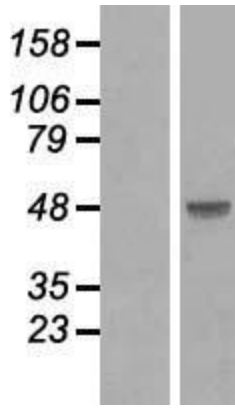
Locus ID: 4088

UniProt ID: [P84022](#)
Cytogenetics: 15q22.33
Domains: DWB, DWA, MH1
Protein Families: Cancer stem cells, Druggable Genome, Embryonic stem cells, ES Cell Differentiation/IPS, Stem cell relevant signaling - JAK/STAT signaling pathway, Stem cell relevant signaling - TGFb/BMP signaling pathway, Transcription Factors
Protein Pathways: Adherens junction, Cell cycle, Chronic myeloid leukemia, Colorectal cancer, Pancreatic cancer, Pathways in cancer, TGF-beta signaling pathway, Wnt signaling pathway
MW: 47.9 kDa
Gene Summary: The SMAD family of proteins are a group of intracellular signal transducer proteins similar to the gene products of the Drosophila gene 'mothers against decapentaplegic' (Mad) and the C. elegans gene Sma. The SMAD3 protein functions in the transforming growth factor-beta signaling pathway, and transmits signals from the cell surface to the nucleus, regulating gene activity and cell proliferation. It also functions as a tumor suppressor. Mutations in this gene are associated with aneurysms-osteoarthritis syndrome and Loeys-Dietz Syndrome 3. [provided by RefSeq, Nov 2019]

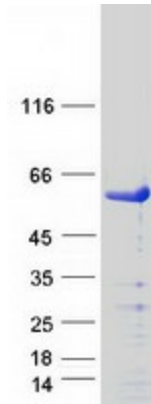
Product images:



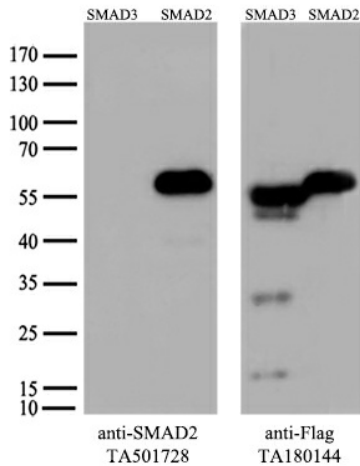
Circular map for RC208749



Western blot validation of overexpression lysate (Cat# [LY401784]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC208749 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified SMAD3 protein (Cat# [TP308749]). The protein was produced from HEK293T cells transfected with SMAD3 cDNA clone (Cat# RC208749) using MegaTran 2.0 (Cat# [TT210002]).



HEK293T cells were transfected with the 2 different overexpression plasmids (SMAD3, Cat# RC208749; SMAD2, Cat# [RC204604]) for 48 hrs and lysed. Equivalent amounts of cell lysates (5 ug per lane) were separated by SDS-PAGE and immunoblotted with anti-SMAD2 mouse monoclonal antibody (Cat# [TA501728], 1:500) or anti-flag antibody (Cat# [TA180144], 1:1000).