

Product datasheet for **MG223678**

Smarcd1 (NM_031842) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Smarcd1 (NM_031842) Mouse Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Smarcd1
Synonyms:	AA407987; Baf60a; D15Kz1
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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ORF Nucleotide Sequence:

>MG223678 representing NM_031842
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGGCGGCCCGGGCGGGTTTCCAGTCTGTGGCTCCGAGCGCGGGCGGGAGCCTCAGGAGAGCGGGCG
 TGGCGGCTGCTCTGGGCCCGGGCGGAACCTCCGGGCTCCCGTGCGAATGGGCCCGCGCCGGTCAAGG
 GCTGTACCCTCTCCGATGCCCGGGCGGCCTATCCGAGACCAGGTATGCTGCCAGGTAGCCGAATGACA
 CCTCAGGGACCTTCCATGGGACCTCCTGGCTATGGGGGAACCCTTCAAGTCCGACCTGGTCTGGCCAGT
 CAGGGATGGACCAGTCCCGCAAGAGACCTGCACCTCAACAGATCCAGCAGGTCCAGCAGCAGGGCGGTCCA
 AAATCGAAATCACAATGCAAAGAAAAAGAGATGGCTGACAAAATCTACCTCAAAGGATTCGGGAACTG
 GTCCAGAATCACAGGCCTACATGGATCTCCTGGCTTTTCAAAGGAACTGGACCAGACTATTATGAGGA
 AGCGGCTAGATATCCAGGAGCCTTGAACGTCATCAAGCAAAAACGGAAGCTCGGAATTTTCATTTT
 TAACACGTTCAATCCGGTAAGTCGGACCGGAGGATGGGAAGGGACGGTGGCTTCTGGGAGCTCCGG
 GTAGAAGCCCGCTCCTGGAGGACGCGCCTTGTCCAAATATGACGCCACCAAGCAAAAGAGAAAGTTCT
 CTTCTTTTTTAAAGTCTTGGTATCGAACTGGACAAAGACCTCTATGGCCAGACAACCATCTGGTAGA
 ATGGCACAGGACCGCCACTACCCAGGAGACCGATGGCTTCCAGGTGAAGCGGCCAGGAGATGTGAATGTA
 CGGTGTACTGTCTGTGATGCTGGACTACCAGCCCCCAGTTAAATTAGACCCTCGCCTGGCTCGGC
 TCTTGGGCATCCATACCCAGACACGTCCAGTGATCATCAAGCACTGTGGCAGTATATTAACACACAA
 GCTCCAGGACCTCACGAGCGAGAGTTTGTCTCTGTGACAAGTACCTCCAGCAGATCTTTGAATCTCAG
 CGGATGAAGTTCTCAGAGATCCCTCAGCGGCTCCACGCTTGTATGCCACCAGAGCCCATCATCATCA
 ATCATGTCATCAGTGTGGACCAATGACCAGAAAAAGACCGCGTGTATGACATTGACGTGGAGGTGGA
 TGACACTCTGAAGACCCAGATGAACTCTTCTGTGTCCACTGCCAGCCAGCAGGAGATCGCCACTCTA
 GACAACAAGATCCATGAGACGATAGAGACCATCAACCAGCTGAAGACCCAGCGAGAGTTCATGTTGAGCT
 TTGCCGAGACCTCAGGGTTTCAATCAATGATTGGCTTCAAGTCCAGTGCAGGGACCTCAAGACGATGAC
 TGATGTGGTGGTAACCCGGAAGAGGAGCGTCGTGCTGAGTTCTACTCCAGCCCTGGGCTCAGGAGGCT
 GTGTGCCGATACTTCTACTCCAAGGTGCAGCAGAGGCGGCAAGAGTTAGAGCAAGCCCTGGGAATCCGAA
 ACACA

ACGCGTACGCGGCCGCTCGAG – GFP Tag – GTTTAA

Protein Sequence:

>MG223678 representing NM_031842
 Red=Cloning site Green=Tags(s)

MAARAGFQSVAPSGGAGASGGAGVAAALGPGGTPGPPVVMGPAPGQGLYRSPMPGAAAYPRPGMLPGSRMT
 PQGSPMGPPGYGGNPSVRPGLAQSGMDQSRKRPAPQQIQVQQQAVQNRNHNKAKKKMADKILPQRIREL
 VPESQAYMDLLAFERKLDQTIMRKRLDIQEALKRPIKQKRKLRFISNTFNPASDAEDGEGTVASWELR
 VEGRLLEDAALSKYDATKQKRFSSFFKSLVIELDKDL YGPDNHLVEWHRTATTQETDGFQVCRPGDVNV
 RCTVLLMLDYQPPQFKLDPRLARLLGIHTQTRPVIIQALWQYIKTHKLQDPHEREFVLCDKYLQQIFESQ
 RMKFSEIPQRLHALLMPPEPIIINHVISVDPNDQKKTACYDIDVEVDDTLKTMNSFLLSTASQOEIATL
 DNKIHETIETINLKTQREFMLSFARDPQGFINDWLQSQCRDLKMTDVGPNPEEERRAEFYFQPWAQEA
 VCRYFYSKVQRRQEQALGIRNT

TRTRPLE – GFP Tag – V

Restriction Sites:

Sgfl-MluI

Cloning Scheme:


ACCN: NM_031842

ORF Size: 1545 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_031842.2](#), [NP_114030.2](#)

RefSeq Size: 3153 bp

RefSeq ORF: 1548 bp

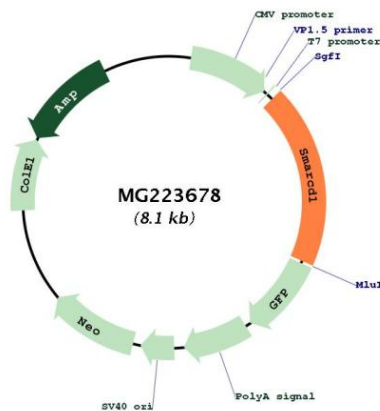
Locus ID: 83797

UniProt ID: [Q61466](#)

Cytogenetics: 15 56.13 cM

Gene Summary:

Involved in transcriptional activation and repression of select genes by chromatin remodeling (alteration of DNA-nucleosome topology). Component of SWI/SNF chromatin remodeling complexes that carry out key enzymatic activities, changing chromatin structure by altering DNA-histone contacts within a nucleosome in an ATP-dependent manner (By similarity). Belongs to the neural progenitors-specific chromatin remodeling complex (npBAF complex) and the neuron-specific chromatin remodeling complex (nBAF complex). During neural development a switch from a stem/progenitor to a postmitotic chromatin remodeling mechanism occurs as neurons exit the cell cycle and become committed to their adult state. The transition from proliferating neural stem/progenitor cells to postmitotic neurons requires a switch in subunit composition of the npBAF and nBAF complexes. As neural progenitors exit mitosis and differentiate into neurons, npBAF complexes which contain ACTL6A/BAF53A and PHF10/BAF45A, are exchanged for homologous alternative ACTL6B/BAF53B and DPF1/BAF45B or DPF3/BAF45C subunits in neuron-specific complexes (nBAF). The npBAF complex is essential for the self-renewal/proliferative capacity of the multipotent neural stem cells. The nBAF complex along with CREST plays a role regulating the activity of genes essential for dendrite growth (PubMed:17640523). Has a strong influence on vitamin D-mediated transcriptional activity from an enhancer vitamin D receptor element (VDRE). May be a link between mammalian SWI-SNF-like chromatin remodeling complexes and the vitamin D receptor (VDR) heterodimer. Mediates critical interactions between nuclear receptors and the BRG1/SMARCA4 chromatin-remodeling complex for transactivation (By similarity). [UniProtKB/Swiss-Prot Function]

Product images:

Circular map for MG223678