

## Product datasheet for **MC225114**

### Smchd1 (NM\_028887) Mouse Untagged Clone

#### Product data:

**Product Type:** Expression Plasmids  
**Product Name:** Smchd1 (NM\_028887) Mouse Untagged Clone  
**Tag:** Tag Free  
**Symbol:** Smchd1  
**Synonyms:** 4931400A14Rik; AW554188; mKIAA0650; MommeD1  
**Vector:** pCMV6-Entry (PS100001)  
**E. coli Selection:** Kanamycin (25 ug/mL)  
**Cell Selection:** Neomycin  
**Fully Sequenced ORF:** >MC225114 representing NM\_028887  
**Red**=Cloning site **Blue**=ORF **Orange**=Stop codon

TTTTGTAATACGACTCACTATAGGGCGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**GCGATCGCC**

ATGGCAGCGGAGGGCGCCAGCGATCCC GCCGGCCTCTCGGAGGGATCTGGGAGAGATGGCGCCGTCGACG  
GCTGTAGGACGGTACTTGTGGACCGCGCGGGAAGGACTCGGAGCTAGGGGATCGCGCACTGCAGGT  
CTCGGAGCAGCGGACTACGCGGGTCCGCGCTTCTGTGTGTCAGACAATTGGCATTTCATCTGAAGAA  
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AAAAGAGGCCAGAAAGTTGTGTACTCTTCAAACACTAAACGCAGTGGAGATTTTTGGGAAAGAT

TGCACATCTAGCACAAATTGAAGATGATCGAGCTGCCATGGTTATCTCTTGGCATCTGGCAAGTGACATG  
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 GCACTGCTCTGTACAGGCTGAGCTCTGTGAACGAGGACTTGGACAATCAGCTGCAGTACCTTCACACTCC  
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 GGAATGACTCCTGTGCGCAGGTGTAATGAGTCACTTTGCTCACTACCAAAGATTGAGGTGACAGAGTGCC  
 CAATCCCTACTAAAAGAATGAGAAGAGAATCCACCAGACAGAATAGAAGGCCAAAAGGTGACGTACCAA  
 CTGA

ACGCGTACGCGGCCGCTCGAGCAGAAAACCTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

- Restriction Sites:** Sgfl-Mlul
- ACCN:** NM\_028887
- Insert Size:** 6024 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).
- 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\\_028887.3](#), [NP\\_083163.3](#)
- RefSeq Size:** 7053 bp
- RefSeq ORF:** 6024 bp
- Locus ID:** 74355
- UniProt ID:** [Q6P5D8](#)
- Cytogenetics:** 17 E1.3

**Gene Summary:**

Non-canonical member of the structural maintenance of chromosomes (SMC) protein family that plays a key role in epigenetic silencing by regulating chromatin architecture (PubMed:26091879, PubMed:29887375). Promotes heterochromatin formation in both autosomes and chromosome X, probably by mediating the merge of chromatin compartments (PubMed:23754746, PubMed:23819640, PubMed:26391951, PubMed:28587678, PubMed:29887375). Plays a key role in chromosome X inactivation in females by promoting the spreading of heterochromatin (PubMed:18425126, PubMed:22841499, PubMed:26391951, PubMed:29887375). Recruited to inactivated chromosome X by Xist RNA and acts by mediating the merge of chromatin compartments: promotes random chromatin interactions that span the boundaries of existing structures, leading to create a compartment-less architecture typical of inactivated chromosome X (PubMed:29887375). Required to facilitate Xist RNA spreading (PubMed:29887375). Also required for silencing of a subset of clustered autosomal loci in somatic cells, such as the DUX4 locus (PubMed:23754746, PubMed:23819640, PubMed:28587678). Has ATPase activity; may participate in structural manipulation of chromatin in an ATP-dependent manner as part of its role in gene expression regulation (PubMed:26391951, PubMed:27059856). Also plays a role in DNA repair: localizes to sites of DNA double-strand breaks in response to DNA damage to promote the repair of DNA double-strand breaks (By similarity). Acts by promoting non-homologous end joining (NHEJ) and inhibiting homologous recombination (HR) repair (By similarity). Required during preimplantation development, probably acts by regulating chromatin architecture (PubMed:29900695).[UniProtKB/Swiss-Prot Function]