

Product datasheet for **RC240046**

SMC1 (SMC1A) (NM_001281463) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	SMC1 (SMC1A) (NM_001281463) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	SMC1A
Synonyms:	CDLS2; DEE85; DXS423E; EIEE85; SB1.8; SMC1; SMC1alpha; SMC1L1; SMCB
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
Cell Selection:	Neomycin
ORF Nucleotide Sequence:	>RC240046 representing NM_001281463 Red=Cloning site Blue=ORF Green=Tags(s)

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GCC**GCGATCGCC**

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AGGTTTTGGCAAGAACATGGATGCCATTATTGTGGACTCGGAGAAGACAGGCCGGGACTGTATTAGTA
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Protein Sequence: >RC240046 representing NM_001281463
 Red=Cloning site Green=Tags(s)

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 CFSVATNIDEIYKALSRNSSAQAF LGPENPEEPYLDGINYNCVAPGKRF R P M D N L S G G E K T V A A L L L F
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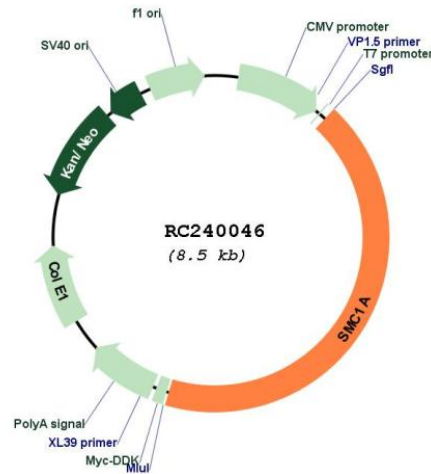
Restriction Sites:

Sgfl-MluI

Cloning Scheme:



Plasmid Map:



ACCN: NM_001281463

ORF Size: 3633 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_001281463.1](#), [NP_001268392.1](#)

RefSeq Size: 9930 bp

RefSeq ORF: 3636 bp

Locus ID: 8243

Cytogenetics: Xp11.22

Protein Families: Druggable Genome

Protein Pathways: Cell cycle, Oocyte meiosis

MW: 141.3 kDa

Gene Summary: Proper cohesion of sister chromatids is a prerequisite for the correct segregation of chromosomes during cell division. The cohesin multiprotein complex is required for sister chromatid cohesion. This complex is composed partly of two structural maintenance of chromosomes (SMC) proteins, SMC3 and either SMC1B or the protein encoded by this gene. Most of the cohesin complexes dissociate from the chromosomes before mitosis, although those complexes at the kinetochore remain. Therefore, the encoded protein is thought to be an important part of functional kinetochores. In addition, this protein interacts with BRCA1 and is phosphorylated by ATM, indicating a potential role for this protein in DNA repair. This gene, which belongs to the SMC gene family, is located in an area of the X-chromosome that escapes X inactivation. Mutations in this gene result in Cornelia de Lange syndrome. Alternative splicing results in multiple transcript variants encoding different isoforms. [provided by RefSeq, Jul 2013]