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Homo sapiens          MASTGSQASDI DEI FGFFNDGEPPTKKPRKLLPSLKTKKPRELVLVIGTG 50
Rattus norvegicus    MASTGSQASDI DK I FGFFNDGEPPTKKPRKLLPSLKTKKPRELVLVIGTG 50
Meleagris gallopavo  MASTVSLGKET-----LLEDGMPPAKKPRKLLPSLKTKKPRELVLVIGTG 45
Gallus gallus        MASTVSLGKET-----LLEDGMPPAKKPRKLLPSLKTKKPRELVLVIGTG 45
Danio rerio          MASVVTVKTEK-RPSPDSEDGDTMAKKARKLLPSLKTTRAPELVLVIGTG 49
Gasterosteus aculeatus MASIVAVKSEK-RPAADSQDADTNAKKPRKLLPSLKTTRAPELVLVIGTG 49
*** : . :          : * . . : **_*****: . *****

Homo sapiens          I SAAVA PQVPALKSWKGLI QALLDAA IDFDLLEDEE SKKFQKCLHE DKNL 100
Rattus norvegicus    I SAAVA PQVPALKSWKGLI QALLDAA IDFDLLEDEE SKKFQKCLHE DKNL 100
Meleagris gallopavo  I SAAVA PQVPALKSWKGLI QALLDAA IDFDLLEDEE SKRFQKCLHE YKNL 95
Gallus gallus        I SAAVA PQVPALKSWKGLI QALLDAA IDFDLLEDEE SKRFQKCLHE YKNL 95
Danio rerio          VSSAVA PQVPALRSWKGLI QALLDAANDFDLLEE EESRRFQKSLQEDKNL 99
Gasterosteus aculeatus VSSAVA PQVPALRSWKGLI QALLDAANDFDLLEE EESRRFQKHMQEDKNL 99
: * :*****:***** *****:***: :** :* ***

Homo sapiens          VHVAHDLIQKLSPR--TSNVRSTFFKDCLYE VFDLLESKME DSGKQLLQS 148
Rattus norvegicus    VHVAHDLIQKLSP----- 113
Meleagris gallopavo  VHVAHDLIQKLSPR--TSNVRSTFFKDCLYE VFDLLESKME DSGKQLLQS 143
Gallus gallus        VHVAHDLIQKLSPR--TSNVRSTFFKDCLYE VFDLLESKME DSGKQLLQS 143
Danio rerio          VHVAHDLIQKLSP--RTGNVRSTFFKDCLYE VFDLLECKME NAGKHL LRS 147
Gasterosteus aculeatus VHVAHDLIQKLSPEQR TGNVRSTFFKDCLYE VFDLLECKME HAGKHL LRS 149
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Homo sapiens          VLHLMENGALVLTTFDNLLELYAADQGKQLES L DL TDEKKVLEWAQEKR 198
Rattus norvegicus    -----VLEWAQEKR 122
Meleagris gallopavo  VLHLMENGALVLTTFDNLLELYAAHQGHLES L DL TDEKKVLEWAQEKR 193
Gallus gallus        VLHLMENGALVLTTFDNLLELYAAHQGHLES L DL TDEKKVLEWAQEKR 193
Danio rerio          VLQLME SGALVLTTFDNLLELYAAHQGT KLES L DL TDEKKVLEWAQEKR 197
Gasterosteus aculeatus VLQLME SGALVLTTFDNLLELYAAHQGT KLES L DL TDEKKVLEWAQEKR 199
*****

Homo sapiens          KLSVLH IHGVY TNP SGIVLHPAGY QNVL RNT EVMRE IQKLY ENKS FFLFG 248
Rattus norvegicus    KLSVLH IHGVY TNP SGIVLHPAGY QNVL RNT EVMRE IQKLY ENKS FFLFG 172
Meleagris gallopavo  QLSVLH IHGVY TNP SGIVLHPAGY QNVL RNT EVMRE IQKLY ENKS FFLFG 243
Gallus gallus        KLSVLH IHGVY TNP SGIVLHPAGY QNVL RNT EVMRE IQKLY ENKS FFLFG 243
Danio rerio          RLSVLH IHGVY TNP SGIVLHPAGY QNVL RNT EVMRE IQKLY ET KSFVFLG 247
Gasterosteus aculeatus RLSVLH IHGVY TNP SGIVLHPAGY QNVL RNT EVMRE IQKLY ET KSFVFLG 249
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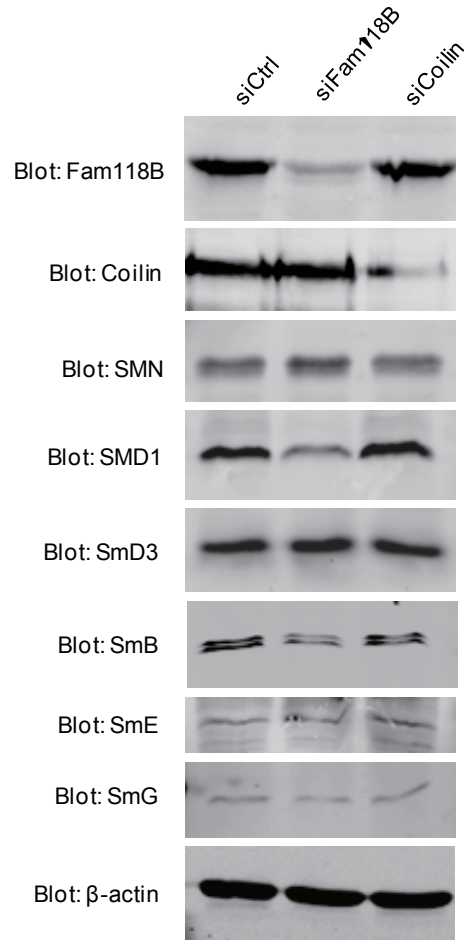
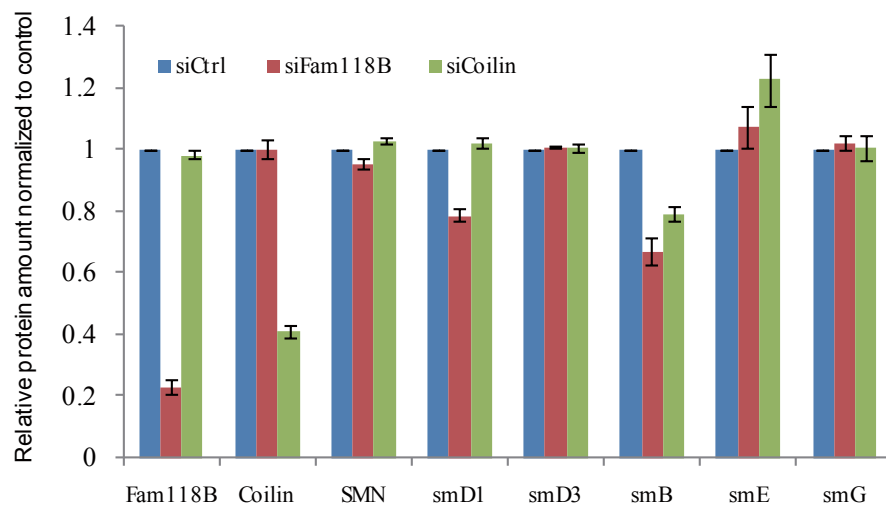
Homo sapiens          CGWTVDDTT FQALFLEAVKHKSDLEH FMLVRRGDVDEFKKLRENMLDKGI 298
Rattus norvegicus    CGWTVDDTT FQALFLEAVKHKSDLEH FMLVRRGDVDEFKKLRENMLDKGI 222
Meleagris gallopavo  CGWTVDDTT FQALFLEAEKHKSDLEH FMLVRRGDVDEFKKLRENMLDKGI 293
Gallus gallus        CGWTVDDTT FQALFLEAEKHKSDLEH FMLVRRGDVDEFKKLRENMLDKGI 293
Danio rerio          CGRTVDDTT FQALFLEAVKHKSDLEH FMLVRRGDVGEFVKLRDNMLDKGI 297
Gasterosteus aculeatus CGRTVDDTT FQALFLEAVKHKSDLEH FMLVRRGDVGEFVKLRDNMLDKGI 299
** ***** **_*****:*****

Homo sapiens          KVISYGDYADLPE YFKRLTCEIS TRGTSAGM VREGQ---LNGSSAAHS- 344
Rattus norvegicus    KVISYGN DYADLPE YFKRLTCEIS TRGRSAGMAREGQ---LNGSSAAHG- 268
Meleagris gallopavo  KVISYGDEYTDLPE YFGRLASEIATRGR-AGVLKEGQQ--LNGSAAAH- 339
Gallus gallus        KVISYGDEYTDLPE YFGRLASEIATRGR-AGVPKEGQQ--LNGSAAAH- 339
Danio rerio          KVISYGNEYADLPE YFERLANEICNRDVERDMVTNGWGSPI SPGEE SHNG 347
Gasterosteus aculeatus KVISYGDEYADLPE YFERLANEICNR----- 325
*****: :* :***** ** : **_*

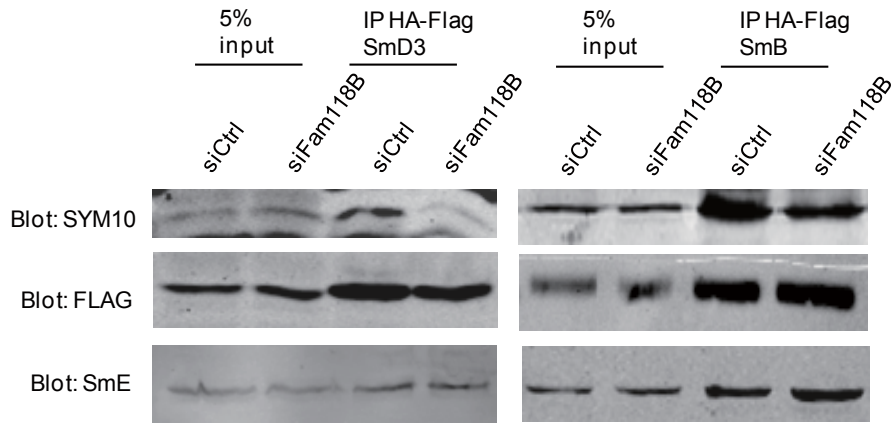
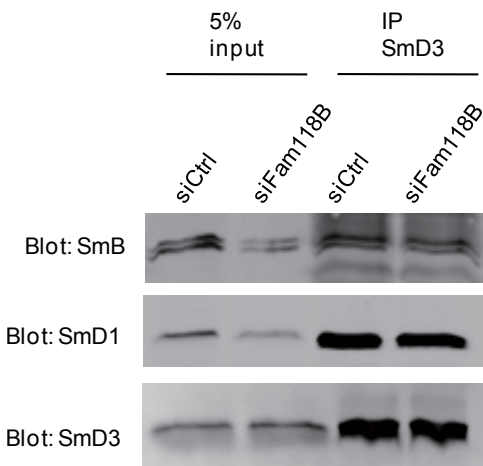
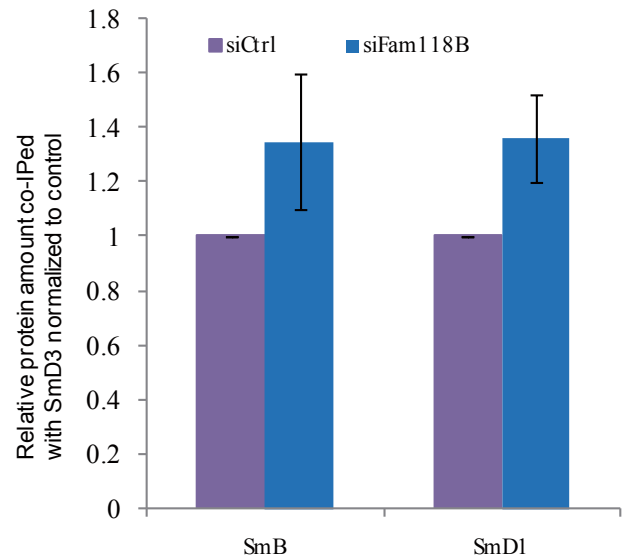
Homo sapiens          -----EIRGCST--- 351
Rattus norvegicus    -----EIRGCST--- 275
Meleagris gallopavo  -----EITGCST--- 346
Gallus gallus        -----EITGCST--- 346
Danio rerio          FTTQKNLLQVPASRTIET 365
Gasterosteus aculeatus -----

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**Fig. S1. Sequence alignment of Fam118B homologs in different species.** The red line indicates the residues (190-232) of Fam118B, which are necessary for its localization in Cajal Body. The green line shows a putative nucleolus localization signal based on a NoLS detector (<http://www.compbio.dundee.ac.uk/www-nod/>).

**A****B**

**Fig. S2. Depletion of Fam118B decrease the protein levels of Smd1 and SmB.** (A) Depletion of Fam118B did not affect the protein level of coilin, SMN and most of Sm proteins but resulted in reduction in SmD1 and SmB. HeLa cells depleted of Fam118B or Coilin were analyzed by Western blot with the indicated antibodies. (B) Quantification showed the amount of indicated target protein normalized to control in control, Fam118B depleted and Coilin depleted cells, respectively (n=3 independent experiments).

**A****B****C**

**Fig. S3. Depletion of Fam118B reduces sDMA modification of SmB and SmD3.** (A) HeLa cells that stably expressed SmD3 or SmB fusion with HA-Flag tag were transfected with control or Fam118B siRNA. Ectopically expressed SmD3 or SmB protein was immunoprecipitated by M2 beads and detected by anti-FLAG antibody. The sDMA modification of SmD3 or SmB was detected by anti-SYM10 antibody. Unmodified SmE protein was detected with anti-SmE antibody. (B) Depletion of Fam118B does not influence the initial assembly of the Sm core proteins. The lysate of HeLa cells treated with control or Fam118B siRNA were incubated with anti-SmD3 antibody and the presence of co-immunoprecipitated SmD1 and SmB was detected by their respective antibodies. (C) Quantification showed the relative protein amount of indicated proteins co-immunoprecipitated with SmD3.