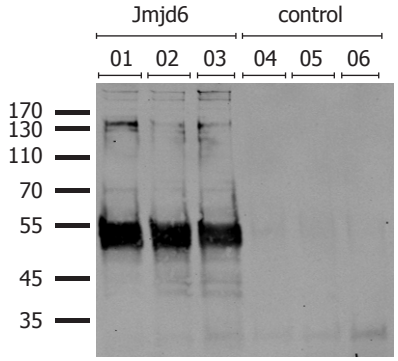
figure S1

A



B

acc no	Unique peptides	Mascot percolator score	p-value	gene name	Enrichment factor Jmjd6-IPs/control
Q6NYC1	16	932	0.00000	Jumonji domain containing protein 6	269.45
Q9NQ29	1	127	0.00188	Putative RNA-binding protein Luc7-like 1	28.74
Q9Y383	5	283	0.00009	Putative RNA-binding protein Luc7-like 2	7.59
Q14498	2	104	0.00006	RNA-binding protein 39	5.25
Q05519	1	25	0.00231	Serine/arginine-rich splicing factor 11	4.73
O95232	2	130	0.00009	Luc7-like protein 3	4.02
Q9UHX1	4	131	0.00396	Poly(U)-binding-splicing factor PUF60	2.46

Figure S1: Immunoprecipitation experiments of endogenous Jmjd6 from HeLa cells. (**A**) Western blot stained with anti-Jmjd6 antibody (sc28348, Santa Cruz) showing the final beads fractions of three independent anti-Jmjd6 pulldown experiments (01-03) and three independent corresponding control (Merck Millipore) experiments (04-06). (**B**) Anti-Jmjd6 and control samples have been analysed by label-free LC-MS/MS analysis and abbundance of co-immunoprecipitated proteins has been analysed. Table indicates enrichment factor of Jmjd6 and co-immunoprecipitated SR-proteins in anti-Jmjd6 samples in comparison to control samples. Mass spectrometry analyses summarise the protein identifications of the samples 01-06 shown in (A).

figure S2

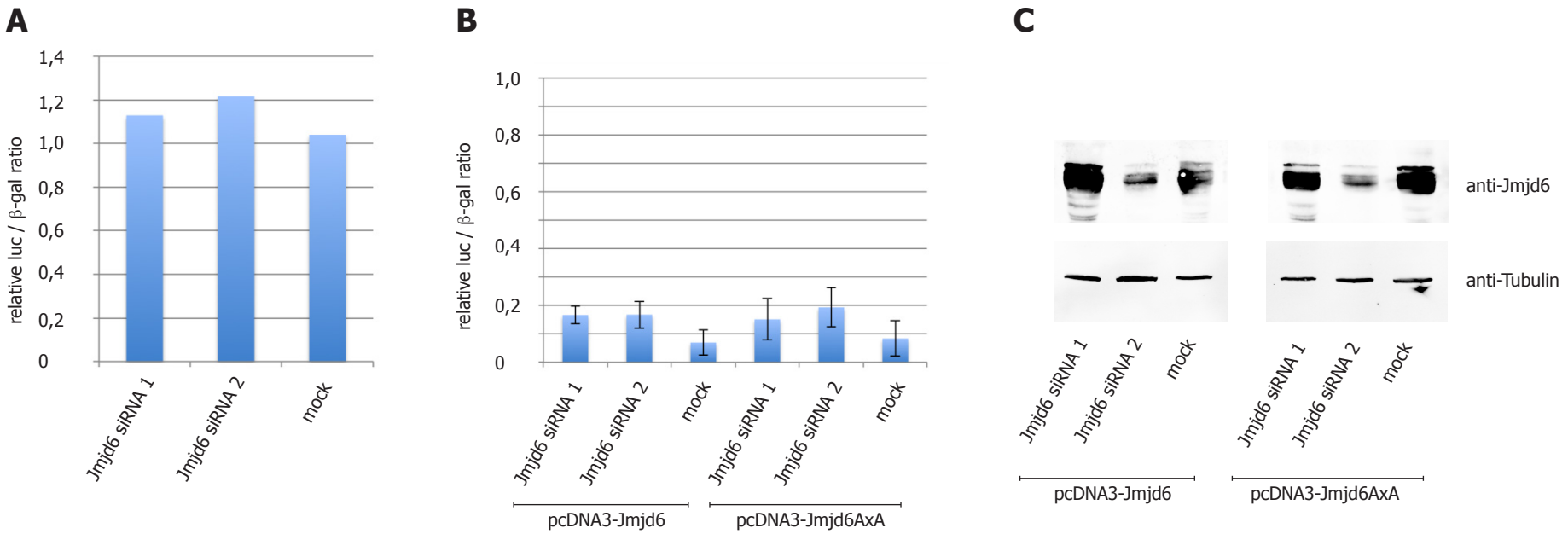


Figure S2: Rescue experiments after Jmjd6 knockdown in HeLa cells. siRNA-mediated knockdown of endogenous Jmjd6 increases splicing activity (**A) + (Fig. 9)**. A subsequent transient expression of wildtype Jmjd6 in the Jmjd6 knock down cells reduces splicing activity in the double-reporter splicing assay. A similar effect was observed for an enzymatically inactive Jmjd6AxA variant (**B**). Nucleotide sequence of the pcDNA3-Jmjd6 and pcDNA3-Jmjd6AxA constructs has been changed in order to avoid binding by siRNA1. Nucleotide changes did not result in a change in amino acid sequence (see material & methods). Jmjd6 levels were detected in immuno blots (**C**).

figure S3

A

SRSF11 (245-394):
RRH**SRSRSRSRRRR**TP**SSSR**H**RRSRSRSRRRS**H**S**K**SRSRRRS**K**S**P**RRRRS**H**SR**E**R**G**RRSRS**T**S**K**T**R**DKKKEDKEKK**RS**KTPPKSYSTA**RRSRS**A**SR**E**RRRRRSRS**GT**RS**PKKP**RS**PK**R**KL**SRS**P**S**P**RR**HKKEKKKDKDKE**RSR**DE**R**E**RS**

Luc7like3 (292-432):
RAR**D**RE**RR**K**RSRSRSR**H**SSR**T**S**D**RR**C**SRS**R**DHK**RSRSR**E**RRRSRSR**D**RRRSRS**HD**RS**E**R**K**H**RSRSR**D**RRRS**K**SR**D**R**K**S**Y**K**H**RS**K**SR**D**R**E**QD**R**K**S**K**E**K**E**K**R**GSDDKK**SS**VK**S**G**SR**E**K**Q**S**E**D**T**N**T**E**S**K**E**S**D**T**K**N**E**V**N**G**T**S**E**D**I**K**S**E**G**D**T**Q**S**N

U2AF65 (21-70):
E**N**R**H**R**K**R**S**H**SRSRSR**D**R**K**RRSRSR**D**RR**N**R**D**Q**RS**A**SR**D**RRRRS**KPLT**R**GA

Acinus S´(447-510):
P**RSRSRSR**D**RRR**K**E**R**AK**S**K**E**K**K**S**E**K**K**E**K**A**Q**E**E**P**P**A**K**L**L**D**D**L**F**R**K**T**K**A**A**P**C**I**Y**W**L**P**L**T**D**S**Q**I**V**Q**K

B

SRSF1 (198-247):
RSP**S**Y**G**RSRSRSRSRSRSRSRS**N**SRSRS**Y**S**P**RRSR**G**S**P**R**Y**S**P**R**H**SRSRSR**T**

Figure S3: Jmjd6 interacts with RS-domains of several SR-like proteins. Amino acid sequences of the Jmjd6-interacting domains of SRSF11, Luc7like3, U2AF65 and Acinus S´ as validated in co-immunoprecipitation (co-IP) experiments (**A**). The RS-domain of SRSF1 is not bound by Jmjd6 in these co-IP experiments (**B**).