

Protein	GenBank accession no.	kDa	B	C +Buffer	C +IBC WT	C +IBC Y1196A	C +IBC K829A	B ^{act} +Buffer
Sm proteins								
B	gi 4507125	24,6	22	14	25	17	19	20
D1	gi 5902102	13,3	20	8	9	6	9	5
D2	gi 29294624	13,5	60	15	8	14	21	16
D3	gi 4759160	13,9	35	21	19	21	20	25
E	gi 4507129	10,8	23	17	12	18	22	24
F	gi 4507131	9,7	23	6	5	6	6	5
G	gi 4507133	8,5	11	6	7	6	5	5
U1 snRNP								
U1-A	gi 4759156	31,3	8	3			2	
17S U2 snRNP								
U2A'	gi 50593002	28,4	12	27	23	22	41	25
U2B''	gi 4507123	25,4	15	11	13	14	8	8
SF3a								
SF3a120	gi 5032087	88,9	47	19	24	22	43	74
SF3a66	gi 21361376	49,3	25	2	1	2	10	7

SF3a60	gi 5803167	58,5	42	14	12	14	32	31
SF3b155	gi 54112117	145,8	119	49	48	43	84	83
SF3b145	gi 55749531	100,2	61	27	24	18	62	51
SF3b130	gi 54112121	135,5	254	72	79	83	155	156
SF3b49	gi 5032069	44,4	1	4	2	2	5	7
SF3b14a/p14	gi 7706326	14,6	17	6	2	5	21	18
SF3b14b	gi 14249398	12,4	22	3	3	7	4	7
SF3b10	gi 13775200	10,1	7	1	1	2	8	4
17S U2 related								
hPRP43	gi 68509926	90,9	54	19	30	26	27	55
SPF45	gi 14249678	45	9	2			2	9
SR140 (fSAPa)	gi 122937227	118,2	17		3			18
PUF60	gi 402794208	53,9		2			8	
U5								
220K	gi 3661610	273,7	335	320	216	270	200	336
200K	gi 45861372	244,5	375	304	330	279	317	333

116K	gi 41152056	109,4	168	130	118	139	107	112
40K	gi 4758560	39,3	37	49	39	51	42	45
102K	gi 40807485	106,9	170	27	18	26	19	41
15K	gi 5729802	16,8	11					
100K	gi 41327771	95,6	107	14	18	6		15
52K	gi 5174409	37,6	5	2	2	1	6	7
LSm proteins								
LSm2	gi 10863977	10,8	10	1	1	2	3	4
LSm3	gi 7657315	11,8	3					
LSm4	gi 6912486	15,4	19				1	3
LSm6	gi 5919153	9,1	12					
LSm7	gi 7706423	11,6	5					
LSm8	gi 7706425	10,4	18		1	1	2	4
U4/U6								
90K	gi 4758556	77,6	75	5	7	8	4	8
60K	gi 45861374	58,4	57	7	4	4	7	2
20K	gi 5454154	20	14	4	5	3	2	3

61K	gi 40254869	55,4	60	5	3	2	3	1
15.5K	gi 4826860	14,2	9		1	1	2	1
U4/U6.U5								
110K	gi 13926068	90,2	57	9	7	8		13
65K	gi 56550051	65,4	48	8	6	4	4	9
hPRP38	gi 24762236	37,5	30	4	5			
hPRP19/CDC5L complex								
hPRP19	gi 7657381	55,2	96	104	80	97	74	76
CDC5L	gi 11067747	92,2	53	87	103	85	79	79
SPF27	gi 5031653	21,5	11	22	30	26	24	25
PRL1	gi 4505895	57,2	28	44	57	37	49	35
CCAP1 (hsp73)	gi 5729877	70,4	8	21	20	18	22	20
CCAP2 (hspc148, AD-002)	gi 7705475	26,6	1	8	13	7	6	6
catenin, b-like 1 (CTNNB1, NAP)	gi 18644734	65,1	13	5	8	7	16	23
Npw38BP	gi 7706501	70	10				1	20

Npw38	gi 5031957	30,5						5
hPRP19/CDC5L related								
PRCC	gi 40807447	52,4				1	6	5
RBM22 (fSAP47)	gi 8922328	46,9	11	21	23	27	17	15
CRNKL1/hSYF3	gi 30795220	100,6	86	98	71	86	60	88
SKIP	gi 6912676	51,1	60	47	45	58	45	42
PPlase-like 1 (PPIL1)	gi 7706339	18,2	15	12	7	12	9	10
G10 (fSAP17)	gi 32171175	17	10	13	8	17	9	16
Intron Binding Complex (IBC)								
KIAA0560 (fSAP164)	gi 38788372	171,3	44	181	173	204	180	165
hSYF1 (XAB2)	gi 55770906	100	36	71	103	97	123	66
CCDC16 (MGC20398)	gi 49472814	42	3	7	10	7	21	13
hIsy1 (fSAP133)	gi 20149304	33	4	44	29	36	28	25
CypE	gi 5174637	33,4	6	37	30	32	35	27
Recruited prior to B^{act} complex								
TCERG1 (CA150) ¹	gi 21327715	123,9	4	2	1		1	19

RNPC2 (CC1.3, CAPER, fSAP59)	gi 4757926	58,5	48	2	1		1	19
hsp27	gi 4504517	22,8	3	2	4	2	2	1
MFAP1	gi 50726968	51,9	49	6	3	4	10	13
RED	gi 10835234	65,6	58	4	4	5	8	20
hSmu-1 (fSAP57)	gi 8922679	57,5	79	10	8	14	19	30
PPIL4	gi 20911035	57,1		3	4	2	33	
UBL5	gi 13236510	8,5	10				1	5
HsKin17	gi 13124883	45,4	10	3	6	3	15	13
SKIV2L2, KIAA0052 (fSAP118)	gi 193211480	117,8	9	16	14	14	13	3
THRAP3 (TRAP150)	gi 167234419	108,5	48	1		2		2
Abundant first in B^{act} complex								
KIAA1604 (fSAPb)	gi 55749769	105,5	8	39	43	52	35	35
hPRP17	gi 7706657	65,5	21	88	64	92	54	72
hPRP2	gi 4503293	119,2	12	32	38	31	77	54
GPKOW (T54, GPATC5)	gi 15811782	52,1		15	12	14	15	27
NY-CO-10	gi 64276486	53,8	6	18	12	13	23	25
RNF113A	gi 5902158	38,8	1	5	9	5	17	12
PPIL2/Cyp-60	gi 7657473	59,5	26	12	14	18	39	34

MGC23918	gi 21389497	19,2	7	9	12	9	8	8
FRG1	gi 4758404	29,2		4	10	8	18	5
Detected in B^{act} complex								
FAM58A	gi 196049384	26		4	5	4	1	2
LENG1	gi 24308289	30,4		7	5	11	3	2
CRIP1, HSPC139	gi 7661798	11,1			1	1	2	3
MOV10	gi 14211540	113,5		2	1	2		1
FUBP3	gi 100816392	61,5			1	1	15	14
1st step factors								
CCDC49	gi 8923271	49,5			2		10	
CCDC130	gi 13540614	44,7		5	5	7		1
2nd step factors								
hPRP22	gi 4826690	139,3	7	126	104	109	44	17
hPRP18	gi 4506123	39,7		6	3	2		
hPRP16	gi 17999539	140,5		6	9	8	2	1
hSLU7	gi 27477111	68,4		33	36	33	15	7

Abundant first in C complex								
Abstrakt	gi 21071032	69,8	3	56	65	56	25	13
DBPA	gi 20070160	40,1	1	9	8	8	9	7
PPWD1 (KIAA0073, CyP64)	gi 24308049	73,6		53	68	47	13	
PPIase-like 3b	gi 19557636	18,6		17	15	21	9	5
GCIP p29 (fSAP29)	gi 46371998	28,7		15	24	21	15	4
DDX35	gi 20544129	78,9	7	33	44	31	32	7
C19orf29, NY-REN-24, cactin	gi 126723149	88,6		46	39	29		2
PPIG (SRcyp)	gi 42560244	88,5	2	13	15	4	2	
C10orf4; LOC118924; FRA10AC1	gi 24432067	37,5		8	16	12	8	8
C1orf55 (FLJ 35382)	gi 148664216	39,3		22	17	15	4	1
C9orf78 (HSPC220, LOC51759)	gi 7706557	33,7		18	26	16	6	1
DGCR14	gi 13027630	52,4		26	29	27	16	9
DKFZP586O0120 (FAM32A)	gi 7661696	13,1		4	5	4	1	2
FAM50A (HXC-26, XAP5)	gi 4758220	40,1		5	3	4	0	2
FAM50B	gi 6912326	38,6		16	19	19	2	
FLJ22965, CXorf56	gi 11545813	25,6		15	21	20	10	3
NFKBIL1 (IKBL)	gi 26787991	43,1		8	6	5	5	2

NKAP	gi 13375676	47		11	6	2		
TTC14	gi 33457330	88,2		20	24	24	11	5
NOSIP	gi 7705716	33,2		25	14	24	1	
CDK10	gi 16950647	35,4		16	11	14	6	6
PRKRIP1; C114; FLJ13902	gi 13375901	20,9		4	7	5	2	
Q9BRR8	gi 74732921	103,3		30	35	12		
TFIP11	gi 8393259	96,8	12	25	26	29	22	25
MORG1	gi 153791298	34,3	1	19	12	16	11	2
EJC/mRNP								
eIF4A3	gi 7661920	46,9	18	39	50	32	34	20
Magoh	gi 4505087	17,2	4	10	6	12	10	4
Y14	gi 4826972	19,9	2	9	10	11	7	5
Pinin	gi 33356174	81,6	11		1			
RNPS1	gi 6857826	34,2	6	5	3	1		
Acinus (fSAP152)	gi 7662238	151,8	33	32	34	25	15	24
SAP18	gi 5032067		6	6	5	4	4	2
Aly/REF [THOC4]	gi 55770864	26,9	5		4	5	3	3
ELG	gi 8923771	38,9	4	1	2	2		2

DDX3	gi 87196351	73,3	9				2	2
mRNA binding proteins								
PABP1	gi 46367787	70,5	16	5	4	4	9	6
PABPN1, PAB2, OPMD	gi 4758876	32,6	5	2	5	3	2	2
YB-1	gi 34098946	35,9	15	12	11	9	10	8
ASR2B	gi 33383233	100	20	22	16	24	18	23
p68 (DDX5)	gi 4758138	69,2	14	5	2	4	5	4
ELAV (HuR)	gi 38201714	36,1	77	18	25	22	17	1
NF45	gi 24234747	43	10	1	4	1	3	1
LOC124245	gi 31377595	104	4	17	12	11	10	13
Cap binding complex								
CBP20	gi 110349727	18	25	4	1	5	6	5
CBP80	gi 4505343	91,8	95	54	61	61	61	59
TREX								
THOC1 (HPR1)	gi 154448890	75,6	5	6	6	6	6	6
THOC2	gi 125656165	169,6	2	8	6	4	4	9

THOC3	gi 14150171	38,8		2			1	1
THOC5 (KIAA0983, fSAP79)	gi 50959110	78,5	10	6	3	5	2	5
THOC6 (WDR58, MGC2655)	gi 31543164	37,5	2	3	2	5	4	5
THOC7 (FLJ23445, fSAP24)	gi 13376623	23,7			1	2	1	3
RES complex								
SNIP1	gi 21314720	45,8	12	8	5	3	3	15
MGC13125 (fSAP71)	gi 14249338	70,5	17	7	11	8	16	27
CGI-79	gi 4929627	39,7	6	6	5	1		14
SR proteins								
SF2/ASF	gi 5902076	27,8	18	16	15	16	19	18
9G8	gi 72534660	27,4	76	18	13	12	14	16
SC35	gi 47271443	25,5		3	3	3	1	4
SRp30c	gi 4506903	25,5	23	15	14	16	14	11
SRp38	gi 5730079	31,3	27	20	25	15	22	28
SRp40	gi 3929378	31,3	21	20	18	16	14	17
SRp55	gi 20127499	39,6	23	21	23	23	16	12
SRp75	gi 21361282	56,8	3	14	13	13		

hTra-2 alpha	gi 9558733	32,7	18	7	6	9	3	6
hTra-2 beta/SFRS10	gi 4759098	33,7	32	14	8	12	9	11
SR related proteins								
SRm160	gi 42542379	102,5	2	3	7	3		13
SRm300	gi 4759098	300		117	80	49	2	8
hnRNP								
hnRNP A1	gi 4504445	38,7	19	2	2	2	1	3
hnRNP A2/B1	gi 14043072	37,4	20	4	3	1	5	4
hnRNP C	gi 4758544	33,3	51	32	18	22	21	7
hnRNP G	gi 56699409	42,4	34	3	5	6	3	6
hnRNP H1	gi 5031753		5	6	2	4	3	2
hnRNP K	gi 14165435	51	12	6	6	8	22	
hnRNP M	gi 14141152	77,5	32	4	3	2	3	2
hnRNP Q	gi 15809590	69,6	6	2		4	4	
hnRNP R	gi 5031755	70,9	22	7	8	8	8	6
PCBP1	gi 5453854	37,5	42	7	9	6	16	4
PCBP2	gi 14141166	38,1		13	16	13	21	1

RALY	gi 8051631	32,5	7	8	9	6	7	1
Miscellaneous proteins								
RBM7	gi 4503293	30,5	2	1	2	2	1	1
SHARP	gi 14790190	402,2	23	1				50
SON3 (DBP-5)	gi 21040318	263,7		7	2			
TARDBP	gi 6678271	44,6	5	6	2	3	4	2
BAG2 (KiAA0576)	gi 4757834	23,6		1	3	5	3	2
ZCCHC8	gi 38044290	78,5		9	9	9	10	
dermcidin	gi 50659096	9,2		6	1	10	6	2
TIP-48	gi 5730023	51		7	1	1		
TIP-49	gi 4506753	50,2		3	1			
filaggrin	gi 60097902	435				3	4	5
filaggrin-2	gi 62122917	247,9		2	19	9	7	2
ANX1 (annexin)	gi 4502101	38,6		4	7	5		

Data S3. Protein composition of affinity-purified spliceosomes formed in the presence of the recombinant IBC. Related to Figure 6.

Proteins identified by LC-MS/MS (after separation by PAGE) in spliceosomes formed on PM5 pre-mRNA in the presence of the wild-type IBC, helicase mutant IBC (Y1196A) and ATPase mutant IBC (K829A) are shown. As controls, C complexes formed on PM5 pre-mRNA and B^{act} complexes formed on PM5-10 pre-mRNA were also analyzed. Proteins generally accepted to be common contaminants, such as tubulins and ribosomal and exosomal proteins. The presence of a protein is indicated by a number which represents the absolute number of peptides sequenced for that protein in a particular preparation. The absolute number of peptides sequenced previously for proteins identified by LC-MS/MS in affinity-purified human B complexes formed on the PM5 pre-mRNA (Bessonov *et al.*, 2008) is also shown. Proteins are grouped in organizational and/or functional subgroups.