

Figure S1

Domain I

Pt_TFIIS1a	1	-----MDYQELVPIRKKLADW-----K-K--NPKETINILKQLEQ-SPL-NQEAANKSKTYKTIHTLTIIDD- <b>KS-DI</b> ----- <b>LAATIKSKASIV</b> QDKLKKLSQNKP
Pt_TFIIS1c	1	-----MDYQELYDIIRKKLVDW-----K-K--FKETHCILKSLKLEQ-SPL-EWENANKSKIQKLCALTLIDDD-NN-DP-----I <b>VTTIKAKASAV</b> QDRFKRISQAKA
Pt_TFIIS2a	1	-----MDQVDLSOTLKKLLEW-----K-N--SSPTTYNYLDDQIGT-QNF-N <b>SNRIVHOKFLQAVOKLQAQI</b> HEIPP-NTI--YKSYDY <b>EKMIDKAKSIL</b> KKILRQPIQMEV
Pt_TFIIS2b	1	-----MDKVDLTOILKKLNDW-----K-K--SSPTAYNYLDDQIGT-QNF-C <b>QNRIVHOKFLQAVOKLQAQI</b> QLQEI <b>P-NSI--YK</b> SYDY <b>EKMINKAKSIL</b> KKILRQPIQMEV
Pt_TFIIS3	1	-----MDQIDLDQDMRKKLHGY-----K-K--FGKKQVITSIINQLEP-PKT- <b>DKKATAD</b> SKILKTVRITLQIEVVGDD-ASL--SE <b>QDLKQIKKAKATETLQKIKK</b> ---N--
Pt_TFIIS4	1	MILEEQKPF <b>TEELYEYRKKLV</b> DW-----K-W--RGPDA <b>YFVVLGQLCK</b> -GTL- <b>EREAVVOSKIYKSVYIURESI</b> RKAPSTD <b>MALY</b> NKDQIATLLKKLS <b>THNQIKKI</b> ISKPP
Tt_TFIIS	1	--MDQL--YTEDELTEFKNDRKFF-----K-E--IGNTKVIIVKRLFN-CQI-TWQQLQNTKIAQTVQSLSTMSCFDE-----DEEGQEAR <b>QICSQI</b> INKWKKIVQNEK
Ot_22233_0_g55	10	QDQEEA--ISKDDLSEIKFTLEKK-----QAN--HDYATIQSILKMLEF-KQI-TYDLLKETLICKTITTSITKIEAIND-----DAKND <b>AEKVRQKAAGLLGSWRKISQSEK</b>
Ot_1015_0_g5	104	TRIRGK--MSYEQLI <b>EFMADITL</b> K-----R-R--SDPQAVQTLKKLYE-SEI-DIKTVEHAKSERLIRELLSSP----LDMFMASNKLE <b>FEKMKLAKLTLKKWADLRQHL</b>
Ot_14486_0_g34	104	TRIRGK--MSYEQLI <b>EFMADITL</b> K-----R-R--SDPQAVQTLKKLYE-SEI-DIKTVEHAKSERLIRELLSSP----LDMFMASNKLE <b>FEKMKLAKLTLKKWADLRQHL</b>
Mc_conN1	3	TPINQE--DTIQNLVDL <b>IKKFSK</b> -----C-K--GNIQEKDTINYMGE-YRV-NRDI <b>LKTLAKKMTTW</b> -----SRSKN <b>KEIKKAAKRVLNEWKTQIKGVN</b>
Im_IMG5_116810	1	MDQL-PKFGSNED-----
Lm_TFIIS1-1	24	-----VPTHSVSP <b>IAAPSREA</b> -----ED--VQHSSA <b>SPLKRP</b> VAEPV-T-HFLTPNAL <b>GGLRHSSNSV</b> -----SP-SPATLTAERV <b>CHDAHADTDAV</b>
Lm_TFIIS2-1	96	SGYHH--LRS <b>KLHDLSSKISSA</b> -----VAA--ADLTA <b>RAALCQ</b> LDG-VDV-YTELEDTKIG <b>VAVGSVLSQ</b> -----PVLK <b>PWPLARAMISFWARH</b> PAET
Tb_TFIIS1	1	-----MGK <b>DS-NDGKIGVK</b> RF-----R <b>EE</b> ---S---KTALGAPTS-PPV-TPNCINNTSVTV--R-----
Tb_TFIIS2-1	105	SHLSP--ASD <b>DALVQWKDIDEA</b> -----TDN--CDGAL <b>TSTLKL</b> AS-VSV-TTRQLLR <b>TKIGVSVSR</b> ALSK-----KDLE <b>EQSLATC</b> LISAW <b>TAKI</b> PEET
Hs_TCEA1	1	-----MEDE <b>VVRFAKKMDKM</b> -----VQK--KNAAG <b>ADLLKEL</b> KN-IPM-TLELLQ <b>STRIGMSVNA</b> LRKQ-----STDE <b>EVTS</b> LAKSLIK <b>SWKKLL</b> DGPS
Hs_TCEA2	1	-----MMGKE <b>EIARFARR</b> LDKM-----VTK--KSAEG <b>ADLLREKA</b> --MPI-TLHLLQ <b>STRVGM</b> SVNALRKQ-----SSDE <b>EVIALAK</b> SLIK <b>SWKKLL</b> DASD
Hs_TCEA3	1	-----M-Q <b>EEELLR</b> AKKLE <b>KM</b> -----VAR--KNTEGA <b>ADLLKKL</b> LHS-CQM-SIQ <b>LLQTRIG</b> VAVNGV <b>RKH</b> -----CSDKE <b>VVSLAKV</b> L <b>IKNWKRL</b> LDSFG
At_TFIIS	1	-----MESD <b>LDLFGAKKA</b> ADAAAALDGVTS <b>SGP-EVSQC</b> DAL <b>KQLKK</b> -FPV-TYDTLVAT <b>QVGGK</b> IRSL <b>AKH</b> -----P-VE <b>DLISVAT</b> D <b>LLEI</b> W <b>KKV</b> IEET
Ce_TFIIS	1	-----M-SAL <b>ETQSTCKQ</b> VDDI-----CNNGMES <b>VEQC</b> N <b>KL</b> D <b>QLSK</b> -IPM-SIE <b>ILQK</b> T <b>NI</b> G <b>KVN</b> M <b>RKK</b> -----VTD <b>DAVAKRA</b> K <b>NI</b> K <b>DW</b> K <b>NV</b> VDGKS
Dm_TFIIS	1	-----M-SVE <b>EEVFR</b> Q <b>KK</b> SK <b>M</b> -----ASDG-TG <b>QDQA</b> D <b>LKAL</b> QT-LNI-NLD <b>ILTK</b> TRIG <b>MTV</b> NE <b>IRKS</b> -----SKD <b>DEVIALAK</b> T <b>L</b> IK <b>NW</b> K <b>RFL</b> ASPA
Dm CG8117	1	-----MSMEI-----
Sp_tfs1	1	-----MDS <b>ADIR</b> SA <b>AAE</b> KA-----IQG--KNI <b>ETL</b> IN <b>IM</b> TR <b>IKN</b> -EVVA <b>TEEL</b> L <b>KETRI</b> G <b>IVVG</b> K <b>IRS</b> -----HPN <b>EKV</b> GE <b>QAR</b> E <b>IV</b> K <b>KW</b> K <b>ADV</b> SKGR
Sc_Dst1	1	-----MDS <b>KEV</b> L <b>VHV</b> K <b>N</b> LE <b>KN</b> -----K--SN <b>DAAV</b> LE <b>ELH</b> V <b>L</b> DK- <b>EFV</b> PE <b>KL</b> RE <b>TKV</b> G <b>EVN</b> K <b>FKK</b> -----STN <b>VEIS</b> KL <b>V</b> K <b>M</b> ISS <b>W</b> KA <b>DA</b> IN <b>KNK</b>
		<div style="display: flex; justify-content: space-around; margin-top: 10px;"> <span style="background-color: red; color: white; padding: 2px 10px;"><math>\alpha</math>1</span> <span style="background-color: red; color: white; padding: 2px 10px;"><math>\alpha</math>2</span> <span style="background-color: red; color: white; padding: 2px 10px;"><math>\alpha</math>3</span> <span style="background-color: red; color: white; padding: 2px 10px;"><math>\alpha</math>4</span> </div>

Domain II

Pt_TFIIS1a	132	PSYVD--RVKYNA--SNLFILNIQKFK--NQ--NDLN--ASD	RQTIK--CVEKMENTIYH--KRQDDY	FRKAMEODLRLTAGELK--KDKNGSLTYSFTKQFT	PINAQOLRAADWVD	
Pt_TFIIS1c	132	PAYAD--RIKYKGNQMFIANIFTFK--KD--NVLN--DSE	YQTIK--CVEKMENTIYH--KRAKDH	FRKAMEODLRLTAGELK--KDKNGSLTYRIFTKAF	EVSAQOLRAADWVD	
Pt_TFIIS2a	114	TGYVD--RIQNLN--SNL--LHIFKNWN--QS--NKEQ--LIS	IDKVKVETIG--EKEIYML--RNVFKDS	SKKLAMEMDIKTLVQEMK--RDKSGDVLIRVENKSL	SYEQAAOLKSEWID	
Pt_TFIIS2b	114	TGYVD--RIQNLN--SNL--LHIFKNWD--QT--NKEQ--LIS	IDKIKAVTIG--EKEIYML--RNFYKDS	SKKMTYEMDIKTLVQEMK--RDKTGDVLIRVENKSL	SYEQAAOLKSEWID	
Pt_TFIIS3	128	PQNFDPTRIKVLOT-----LIQKFT	--NE--T-----TPH	QES--IKFCKK--EKEIYML--KEL---	NKEROMQTAIREILKYLD--NRDGSVRRNRMSGL	DIPTAAOLRSEWITS
Pt_TFIIS4	137	--DQFDK--RAKLSEYLQKQLQQ-----KQ--QQDLFQ	E--ENLVDKCNK--LADALENNIY--N--RHYQT	VAPGKMYSSDLKTLVQYVIG--KDKSGRVLHKL	EGFFIVNQACQLQLKDWL	
Tt_TFIIS	147	PTYKSDIRQKGLHEATNKIFMK----VK--DDINASP	-----REWIETIVNLEKKTYS--RN----	SQVVYKSYTREVILGMFSSNEVTTETVISKM	NKETSLQDVAEAKTSVFLT	
Ot_22233_0_g55	170	TQYRDSLRINFTKYMQIPE-----EGV--EY--E-E--	IVLTRAAQLGQTEDELTK--SF----	PRLAELYONKARSLMFLNK--DKNPDLRMSL	EGVITLNRVLDKSLAS	
Ot_1015_0_g5	340	MTYRDQRRRLWNIMRDSMKQIVYPNSKAQLTDGE--KN--	WATECGLRTEDELQNV--SY----	SQVKTYSDKARSLFLNLS--DSKNFELRFKILNQEL	SAQQLVHTDVKKLAS	
Ot_14486_0_g34	340	MTYRDQRRRLWNIMRDSMKQIVYPNSKAQLTDGE--KN--	WATECGLRTEDELQNV--SY----	SQVKTYSDKARSLFLNLS--DSKNFELRFKILNQEL	SAQQLVHTDVKKLAS	
Mc_conN1	164	NETEDKVRNGIRKGLKLLCK-----SN-----EN--PK--	KCKA--SIK--TENSIVL--RLG---	HLKEYTNKCRSITANLQ--R--SDFRSKI	INGIFTHDDLAMNPRDFLE	
Im_IMG5_116810	13	-----VRNKGLQAL----FMK-----FK--E-CDQDK	-----ADIVKISVNIIEKIAH--KN----	SQVEVYKKNIREVILGMLSNYQVIOEVLKGI	IQEKLSTIKDVAECKSVFML	
Lm_TFIIS1-1	167	AAKRITLHQRWAAALHGVLMK-----ER--PS--S--E--	SERVMEGLCVRIEVEST-----P--GDMEQK	DTFQILLFLNK--DSKNGLRKRKVVGEV	LVERTVMTDDELELAN	
Lm_TFIIS2-1	257	PTQRKTFYDNVYQLDLSPLST-----T--R-----Y--	DDTVI---DEWARRL-----T--AEI--TD	DEROMLLRLR--EELSFRDHLISGEW	TPKKYLDQPSVFTT	
Tb_TFIIS1	52	D-----TRLTKWTKLLCKALMQ-----GR--KE--E--D--	EGRVADMAIRVKAAT-----P--GGRSE	SADTFEMLLVHLG--DAKNRRELRES	ITEEKFSEVEIVRMKERDILLN	
Tb_TFIIS2-1	254	GGAQPQFVDRVQKLL--QP-----GD--PH--S--F--	SVRSDDLR--SVAEKI-----C--AETV	RSEDRMYLLEHLS--KPLGSEIRRL	AMGELSGKDFLELSRWELMT	
Hs_TCEA1	134	PSTSDSVRIKCREMLAAALRF-----GD--DY--I--	AI--GADEEELGSOIEEAIYQ--EIR--	NTDMKYKNRVRSRISNLK--DAKNPDLR	RNVLCGATIPQQLAVMTSEEMAS	
Hs_TCEA2	132	PVTCDAVRNKCREMLTAALQT----DH--DH--V--AI--	GADCERLSAQIEECTER--DVG--	NTDMKYKNRVRSRISNLK--DAKNPDLR	RNVLCGATIPQQLAVMTSEEMAS	
Hs_TCEA3	181	YLTGDSVRDKVEMLSAALKA-----DD--DY--K--DY--	GVNCDKMASEIEDHIYQ--ELK--	STDMKYKNRVRSRISNLK--DPENPGL	RNRVLSGAI SAGLAKMTAEEMAS	
At_TFIIS	204	LKCNPDVRDKIRELLVEALCRVAGEAD--DY--E--	RESVNASDPLRVAVSVESLMEF--RLG--	RSTGAQLKVRSIMFNLR--DSNPNDL	RRRVLTGEISPEKITLSAEDMAS	
Ce_TFIIS	142	HLENDETRIKSAQLLALSALRF-----GD--MP--Q--G--	TLDPLELAVQIEEKLYS--VHR--	DTNKSSAAVRSRIFNLR--DKNLAL	RENVIITGVRAEKFAATMTSEEMAS	
Dm_TFIIS	147	GGMTDAVRIKCREMLATALKI-----GE--VP--E--G--	CGEPEMAAEIEDAIYS--EFN--	NTDMKYKNRVRSRVANLK--DPKNPGL	RGNVFCGAVTAKQLAKMTPEEMAS	
Dm_CG8117	6	-----RIKCREMLATALKS-----GN--MP--P--G--	CGDPDMAAKIEDAIYG--DLN--	GCKVKYKNRVRSRVANLR--DPKNPE	LRQKFTLGGQITPEELSKMTPEEMAS	
Sp_tfs1	127	NVTDDKTRNNTGLMNYNALV-----IDS--DE--S--S--	SLIIAKAKETDAQVLA--RAAG--	KTGSEYRNRMRSLYMNK--DKNNPK	LRASVLRNEITPQRLSTMTSAELAS	
Sc_Dst1	142	AIYHHKLRDQVLEKALYDVLA-----KES--EH--P--P--	-----QSILHTAKALESEMKNVNNCD--	INEAAYKARYRTIYSNVI--SKNNPDL	KHKLIANGDITPEFLATCDADLAP	

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Linker & Domain III

Pt_TFIIS1a	238	DETKQEQSRIIEKKEAEQIGYKDSK--REMEGV	GKTKGCGQKVVYLVEKQTRASDEPTIKFEFCYNGD--KFRIC
Pt_TFIIS1c	238	DETKQEQARIIEKKEAEQIGYKDSK--REMEGI	GKTKGCGQKVVYLVEKQTRASDEPTIKFEFCYNGD--KFRIC
Pt_TFIIS2a	220	EKTKLNLQKAAQKEELEINQIGYKESK--REMDGV	GKCGHQRKVVYLVEKQTRCADEPTIKFEFCFNCGD--KFR-I
Pt_TFIIS2b	220	EKTKLNLQQAQKEELEINQIGYKESK--REMDGV	GKCGHQRKVVYLVEKQTRCADEPTIKFEFCFNCGD--KFR-V
Pt_TFIIS3	222	ATRLAIGGGVEIISANLMMHNKYLAQ--AINKDVA	GLONNGQRQMKLVNEIQTRASDEPSTKEVEICNIGIGETNG
Pt_TFIIS4	241	BEVIRELENRKISEKDDADYRQIRI--KEMIQ	SKGQCEPCHNNYLYIIEETKQIRRADEPATIEYECFAQH--RMK-V
Tt_TFIIS	245	DRORAQQKAVEDQLATSDPDYNNMR--QRLOGL	EGELGKGRKKTAFVLKELQTRSSDEPMTRFMECNSGK--SWK-D
Ot_22233_0_g55	266	KALQDEBENKTOQANLNARRSDMFIENAA--KKG	NKGFETCKKCHSNTTY--FOMQTRGADBPMTNFITCLDCKN--QWK-C
Ot_1015_0_g5	444	EWKQKREESLRTL SMKRTDMDVQETL--SQGE	FQGMFQCE--CGSOKTGY--IQQLIERADEPMTNFVYCYDCEN--RWK-C
Ot_14486_0_g34	444	EWKQKREESLRTL SMKRTDMDVQETL--SQGE	FQGMFQCE--CGSOKTGY--IQQLIERADEPMTNFVYCYDCEN--RWK-C
Mc_conN1	256	DSLKKKRAKRETRIDSKRS---DY--LA--NSKI	KEGMYTBEKRSKKTTF--YEQQTRSADEPMTTFVQCLMOSH--NMK-F
Im_IMG5_116810	101	QKEKEENLQQLQTEFEVLDPEYNKRR--KNLVGL	EGEKCRNCKKLTAFVLKELQTRAADEPMTRFMECNSGK--KWK-E
Lm_TFIIS1-1	259	PELRKHIEBEIERSKDTNL--SE--RRKAMRT	SNSLTKCRVCGARDSSW--EQRQTRSGDEPMTVITCNKONT--QWRKY
Lm_TFIIS2-1	342	KSEKARQQRQEKKAIEA----DNAMLNIT	SLEKGRGGKRHCTF--YEQQTRSADEPTTKYITCLDCKN--TWTQE
Tb_TFIIS1	140	PEERERQEAFLARSDDTL--TE--RK--ATS	ITSLTFPSPCKARNCTW--TQKQTRSADEPMTTEFCINICEH--KWRRY
Tb_TFIIS2-1	341	QBEKEDARRTTEKLRNLE----ETER--SL	LHTTSLFECPECHGRECEM--RELQTRSADEPTTKFKCIKCKH--NWSEN
Hs_TCEA1	231	DELKEMRKNLTKAIREH-----QMAK--TGGT	QTDLETCGKCKKRNCTY--TQVQTRSADEPMTTFVVCNFCGN--RWKFC
Hs_TCEA2	229	DELKEIRKAMTKAIREH-----QMAK--TGGT	QTDLETCGKCKKRNCTY--TQVQTRSSDEPMTTFVVCNFCGN--RWKFC
Hs_TCEA3	278	DELRELFNAMTQEAIREH-----QMAK--TGGT	ITDLEFQSKCKKRNCTY--NOVQTRSADEPMTTFVLCNFCGN--RWKFC
At_TFIIS	308	DKRKQENNOIKEKALFDC-----ERGL--AAK	ASTDQFKGRGQRKCTY--YQMQTRSADEPMTTVVTVNCDN--HWKFC
Ce_TFIIS	238	AEIREMRDKFTKAIREH-----QMSV--QGT	PSDMFKCGKCKKRNCTY--TQLQTRSSDEPMTTFVFCNFCGN--RWKFC
Dm_TFIIS	243	DEMKKLREKFKVKEAINDA----QLAT--VQGT	KTDLLKCAKCKKRNCTY--NQLQTRSADEPMTTFVMONFCGN--RWKFC
Dm_CG8117	95	DDMKQMRQKYQDSINAA-----QMAK--VQGT	KTKQFKCECDKNCNCS----QLHITDGDDEPITITFVICNFCGN--RWK-S
Sp_tfs1	223	EDRRKEDAKLEQENLFHA-----QGAK--PQAV	TDLFTCGKCKKVVSY--YQMQTRSADEPMTTFCECTVCGN--RWKFS
Sc_Dst1	239	APLKQKLEIAKQNLVNA-----QAT--IERS	VTRFTCGKCKKVVSY--YQLQTRSADEPTITTFCTCEAGN--RWKFS

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