

Supplementary Table 1. Structures of Pol II initiation factors

Structure type	Subunit/ Complex	Year	Organism	Method	PDB/ePDB code	Resolution	Reference
TFIIA	TFIIA - TBP - DNA complex	1996	<i>S. cerevisiae</i>	X-ray	1YTF	2.5	1
TFIIA	TFIIA - TBP - DNA complex	2003	<i>S. cerevisiae</i>	X-ray	1NH2	1.9	2
TFIIA	TFIIA - TBP - DNA complex	2003	<i>H. sapiens</i>	X-ray	1NVP	2.1	2
TFIIA	TFIIA - TBP - DNA complex	2005	<i>S. cerevisiae</i>	X-ray	1RM1	2.5	-
TFIIB	TFIIB N-terminal zinc ribbon	1996	<i>P. furiosus</i>	NMR	1PFT	-	3
TFIIB	TFIIB C-terminal core domain	1998	<i>H. sapiens</i>	NMR	1TFB	-	4
TFIIB	TFIIB N-terminal zinc ribbon	2000	<i>H. sapiens</i>	NMR	1DL6	-	5
TFIIB	TFIIB N-terminal zinc ribbon, zinc-bound	2004	<i>H. sapiens</i>	NMR	1RLY	-	6
TFIIB	TFIIB N-terminal zinc ribbon, zinc-free	2004	<i>H. sapiens</i>	NMR	1RO4	-	6
TFIIB	TFIIB C-terminal core domain - VP16 activation domain complex	2005	<i>H. sapiens</i>	NMR	2PHG	-	7
TFIIB	TFIIB C-terminal domain	2009	<i>T. brucei</i>	X-ray	3H4C	2.3	8
TFIIB	TFIIB core - TBP - DNA complex	1996	<i>H. sapiens/ A. thaliana</i>	X-ray	1VOL	2.7	9
TFIIB	TFIIB core - TBP - DNA complex	1997	<i>P. woesei</i>	X-ray	1AIS	2.1	10
TFIIB	TFIIB core - TBP - DNA complex	1999	<i>P. woesei</i>	X-ray	1D3U	2.4	11
TFIIB	TFIIB core - TBP - DNA complex	2000	<i>H. sapiens</i>	X-ray	1C9B	2.7	12
PolII-TFIIB	PolII (10 subunit)-TFIIB complex	2004	<i>S. cerevisiae</i>	X-ray	1R5U	4.5	13
PolII-TFIIB	PolII (12 subunit)-TFIIB complex	2009	<i>S. cerevisiae</i>	X-ray	3K1F	4.3	14
PolII-TFIIB	PolII (10 subunit)-TFIIB complex	2009	<i>S. cerevisiae</i>	X-ray	3K7A	3.8	15
PolII-TFIIB	PolII (12 subunit)-TFIIB complex	2012	<i>S. cerevisiae</i>	X-ray	4BBR	3.4	16
PolII-TFIIB	PolII (12 subunit)-TFIIB -DNA complex (ITC)	2012	<i>S. cerevisiae</i>	X-ray	4BBS	3.6	16
TFIIF	A49/ A34.5 (Pol I specific subunits) dimerization module (TFIIF-like)	2010	<i>S. cerevisiae</i>	X-ray	3NFG, 3NFF	2.5, 3.2	17
TFIIF	TFIIF alpha/ beta dimerization module	2000	<i>H. sapiens</i>	X-ray	1F3U	1.7	18
TFIIF	TFIIF alpha C-terminal domain	2001	<i>H. sapiens</i>	X-ray	1I27	1.0	19
TFIIF	TFIIF alpha C-terminal domain - FCP1 C-terminal domain complex	2003	<i>H. sapiens</i>	NMR	1ONV	-	20
TFIIF	TFIIF alpha C-terminal domain	2003	<i>H. sapiens</i>	NMR	1NHA	-	21
TFIIF	TFIIF alpha C-terminal domain - FCP1 C-terminal peptide complex	2003	<i>H. sapiens</i>	X-ray	1J2X	2.0	22
TFIIF	TFIIF alpha C-terminal domain - FCP1 Central domain peptide complex	2008	<i>H. sapiens</i>	NMR	2K7L	-	23
TFIIF	TFIIF beta wHTH domain	1998	<i>H. sapiens</i>	NMR	2BBY	-	24
TFIIE	TFIIE alpha C-terminal acidic domain	2007	<i>H. sapiens</i>	NMR	2JTX	-	25
TFIIE	TFIIE alpha C-terminal acidic domain	2008	<i>H. sapiens</i>	NMR	2RNR	-	26
TFIIE	TFIIE alpha (TFE) winged helix domain	2003	<i>S. solfataricus</i>	X-ray	1Q1H	2.9	27
TFIIE	TFIIE alpha zinc finger domain	2004	<i>H. sapiens</i>	NMR	1VD4	-	28
TFIIE	TFIIE beta central core domain	1999	<i>H. sapiens</i>	NMR	1D8J, 1D8K	-	29
TFIIE	A49 (Pol I specific subunit) Tandem winged helix domain (predicted in TFIIE beta)	2010	<i>S. cerevisiae</i>	X-ray	3NFH, 3NFI	2.2, 1.9	17
TFIIH	Cyclin H	1996	<i>H. sapiens</i>	X-ray	1JKW	2.6	30
TFIIH	MAT1 N-terminal domain	2001	<i>H. sapiens</i>	NMR	1G25	-	31
TFIIH	Subunit 1 PH domain	2004	<i>H. sapiens</i>	NMR	1PFJ	-	32
TFIIH	CDK7	2004	<i>H. sapiens</i>	X-ray	1UA2	3.0	33
TFIIH	Subunit 1 (Tfb1) PH domain	2005	<i>S. cerevisiae</i>	NMR	1Y5O	-	34
TFIIH	Subunit 5	2005	<i>H. sapiens</i>	X-ray	1YDL	2.3	-
TFIIH	Subunit 2 C-terminal domain	2005	<i>H. sapiens</i>	NMR	1Z6O	-	35
TFIIH	Subunit 1 BSD domain	2006	<i>H. sapiens</i>	NMR	2DII	-	-
TFIIH	Subunit 1 (Tfb1) PH domain in complex with the p53 activation domain	2006	<i>S. cerevisiae/ H. sapiens</i>	NMR	2GS0	-	36
TFIIH	Subunit 5	2007	<i>H. sapiens</i>	NMR	2JNJ	-	37
TFIIH	Subunit 5 (Tfb5) with the Subunit 4 (Tfb2) C-terminus	2008	<i>S. cerevisiae</i>	X-ray	3DOM, 3DGP	2.6, 1.8	38
TFIIH	Subunit 1 (Tfb1) PH domain in complex with the VP16 activation domain	2008	<i>S. cerevisiae</i>	NMR	2K2U	-	39
TFIIH	XPD helicase	2008	<i>T. acidophilum</i>	X-ray	2VSF	2.9	40
TFIIH	Subunit 1 (Tfb1) PH domain in complex with the EKLf activation domain	2011	<i>S. cerevisiae</i>	NMR	2L2I	-	-
TFIIH	Subunit 1 (Tfb1) PH domain in complex with Rad2	2012	<i>S. cerevisiae</i>	NMR	2LOX	-	41
TFIIH	Subunit 1 (Tfb1) PH domain in complex with Rad4	2013	<i>S. cerevisiae</i>	NMR	2M14	-	42
TFIIH	XPB helicase C-terminal domain	2013	<i>H. sapiens</i>	X-ray	4ERN	1.8	43

TFIIH	Subunit 1 (Tfb1) PH domain in complex with EBNA2 activation domain	2014	<i>S. cerevisiae</i>	NMR	2MKR	-	44
TFIIH	apo TFIIH	2013	<i>H. sapiens</i>	EM	EMD-2309	20	45
TFIIE-TFIIH complex	TFIIE alpha C-terminal acidic domain - PHD domain p62 (TFIIH) complex	2008	<i>H. sapiens</i>	NMR	2RNQ	-	26
TFIID	TAF6/TAF9 histone fold domains	1996	<i>D. melanogaster</i>	X-ray	1TAF	2.0	46
TFIID	TAF11/TAF13 histone fold domains	1998	<i>H. sapiens</i>	X-ray	1BH8, 1BH9	3.0, 2.6	47
TFIID	TBP in complex with the TAF1 N-terminus	1998	<i>S. cerevisiae</i> / <i>D. melanogaster</i>	NMR	1TBA	-	48
TFIID	TAF1 double bromodomain module	2000	<i>H. sapiens</i>	X-ray	1EQF	2.1	49
TFIID	TAF4/TAF12 histone fold domains	2002	<i>H. sapiens</i>	X-ray	1H3O	2.3	50
TFIID	TAF5 NTD2 domain	2007	<i>H. sapiens</i>	X-ray	2NXP	2.2	51
TFIID	TAF5 N-terminal domain	2007	<i>S. cerevisiae</i>	X-ray	2J49	2.3	52
TFIID	TAF5 N-terminal domain	2007	<i>E. cuniculi</i>	X-ray	2J4B	2.5	52
TFIID	TAF4 TAFH domain	2007	<i>H. sapiens</i>	X-ray	2P6V	2.0	53
TFIID	TAF3 PHD domain (alone, in complex with a H3K4me3 peptide)	2008	<i>M. musculus</i>	NMR	2K16, 2K17	-	54
TFIID	TAF1 double bromodomain in complex with a histone chaperone	2010	<i>H. sapiens</i>	X-ray	3AAD	3.3	55
TFIID	TAF14 YEATS domain	2011	<i>S. cerevisiae</i>	NMR	2L7E	-	56
TFIID	TAF1L bromodomain 2	2009	<i>H. sapiens</i>	X-ray	3HMH	2.1	57
TFIID	TAF1 bromodomain 2	2012	<i>H. sapiens</i>	X-ray	3UV4	1.9	57
TFIID	TAF1 tandem bromodomains	2012	<i>H. sapiens</i>	X-ray	3UV5	2.0	57
TFIID	TAF14 YEATS domain	2012	<i>S. cerevisiae</i>	X-ray	3QRL	1.7	-
TFIID	TAF6 C-terminal domain	2012	<i>A. locustae</i>	X-ray	4ATG	1.9	58
TFIID	TBP/TAF1 N-terminal domains TAND1 and TAND2	2013	<i>S. cerevisiae</i>	X-ray	4B0A	1.97	59
TFIID	TAF1/TAF7 interaction domains	2014	<i>S. cerevisiae</i>	X-ray	4OY2	2.9	60
TFIID	Holo-TFIID	2007	<i>H. sapiens</i>	Cryo-EM	EMD-1194, EMD-1195, EMD-1196	33, 32, 35	61
TFIID	Holo-TFIID	2008	<i>S. cerevisiae</i>	Cryo-EM	EMD-5026	22	62
TFIID	TFIID (lacking, containing TBP)	2009	<i>S. pombe</i>	Cryo-EM	EMD-5135, EMD-5134	10, 8	63
TFIID	Holo-TFIID	2010	<i>S. cerevisiae</i>	Cryo-EM	EMD-5175	28.9	64
TFIID	TFIID-Rap1-DNA complex	2010	<i>S. cerevisiae</i>	Cryo-EM	EMD-5176	24.5	64
TFIID	TFIID-TFIIA-DNA complex (lacking, containing Rap1)	2010	<i>S. cerevisiae</i>	Cryo-EM	EMD-5178, EMD-5177	31.4, 18.6	64
TFIID	Recombinantly expressed TAF5/TAF6/TAF9 complex	2013	<i>H. sapiens</i>	Cryo-EM	EMD-2229	12.8	65
TFIID	Recombinantly expressed TFIID core (TAF4/TAF5/TAF6/TAF9/TAF12)	2013	<i>H. sapiens</i>	Cryo-EM	EMD-2230	11.6	65
TFIID	Recombinantly expressed TAF4/TAF5/TAF6/TAF8/TAF9/TAF10/TAF12 complex	2013	<i>H. sapiens</i>	Cryo-EM	EMD-2231	14.3	65
TFIID	Holo-TFIID (canonical, rearranged conformations)	2013	<i>H. sapiens</i>	Cryo-EM	EMD-2287, EMD-2284	35, 35	66
TFIID	TFIID-TFIIA-super core promoter DNA (canonical conformation/no DNA density)	2013	<i>H. sapiens</i>	Cryo-EM	EMD-2283	32	66
TFIID	TFIID-TFIIA-super core promoter DNA (rearranged conformation/DNA density)	2013	<i>H. sapiens</i>	Cryo-EM	EMD-2282	32	66
Pol II complex	Complex of VP16, Mediator, RNA polymerase II, and TFIIF	2011	<i>H. sapiens</i>	Cryo-EM	EMD-5343	36	67
Pol II complex	Complex of Mediator, RNA polymerase II, and TFIIF	2012	<i>H. sapiens</i>	Cryo-EM	EMD-5344	32	68
Pol II complex	Complex of RNA polymerase II, Mediator head module, TFIIF, TFIIIB, TBP, and promoter DNA	2012	<i>S. cerevisiae</i>	Cryo-EM	EMD-5407	16	69
Pol II complex	Complex of TBP, TFIIA, TFIIIB, DNA, and RNA polymerase II (closed)	2013	<i>H. sapiens</i>	Cryo-EM	EMD-2304	12.0	45
Pol II complex	Complex of TBP, TFIIA, TFIIIB, DNA, RNA polymerase II, and TFIIF (closed)	2013	<i>H. sapiens</i>	Cryo-EM	EMD-2305	12.4	45
Pol II complex	Complex of TBP, TFIIA, TFIIIB, DNA, RNA polymerase II, TFIIF, and TFIIE (closed)	2013	<i>H. sapiens</i>	Cryo-EM	EMD-2306	11.0	45
Pol II complex	Complex of TBP, TFIIA, TFIIIB, DNA, RNA polymerase II, TFIIF, and TFIIE (open)	2013	<i>H. sapiens</i>	Cryo-EM	EMD-2307	12.7	45
Pol II complex	Complex of TBP, TFIIA, TFIIIB, DNA, RNA polymerase II, TFIIF, TFIIE, and TFIIH (closed)	2013	<i>H. sapiens</i>	EM	EMD-2308	14.0	45
Pol II complex	Complex of RNA polymerase II, TFIIIS, promoter DNA, TFIIA, TFIIIB, TBP, TFIIE, TFIIF, and TFIIH	2013	<i>S. cerevisiae</i>	Cryo-EM	EMD-2394	16	70

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