

Supplemental Table 5. List of 218 additional nuclear localized proteins using prediction software

Entry Name ^a	PredictNLS ^b	Nucpred ^c	PsortII localisation ^c	
PredictNLS positive				
GP:AB002330_1	1	0.89	nuclear	91.3
GP:AB023196_1	1	1.00	nuclear	69.6
GP:AB032251_1	1	0.91	nuclear	73.9
GP:AB058697_1	1	0.45	nuclear	52.2
GP:AB058721_1	1	0.36	nuclear	82.6
GP:AB065003_1	1	0.13	nuclear	82.6
GP:AF072718_1	1	0.86	nuclear	91.3
GP:AF112222_1	1	0.61	nuclear	100.0
GP:AF177387_1	1	0.09	nuclear	91.3
GP:AJ006778_1	1	0.51	cytoplasmic	43.5
GP:AJ564104_1	1	0.07	cytoplasmic	56.5
GPN:AK004766_1	1	0.89	nuclear	69.6
GPN:AK009582_1	1	0.08	nuclear	73.9
GPN:AK010310_1	1	0.98	nuclear	60.9
GPN:AK026042_1	1	0.92	nuclear	95.7
GPN:AK041594_1	1	0.10	endoplasmic	44.4
GP:AL161797_1	1	0.89	nuclear	82.6
SW:ARS2_HUMAN	1	0.10	cytoplasmic	60.9
GPN:AY359102_1	1	0.32	nuclear	91.3
GPN:BC000697_1	1	0.84	cytoplasmic	34.8
GPN:BC001041_1	1	0.98	nuclear	100.0
GPN:BC001191_1	1	0.26	endoplasmic	66.7
GPN:BC005097_1	1	0.56	nuclear	39.1
GPN:BC005152_1	1	0.75	nuclear	69.6
GPN:BC011993_1	1	0.27	nuclear	39.1
GPN:BC012306_1	1	0.04	endoplasmic	39.1
GPN:BC014046_1	1	0.79	nuclear	43.5
GPN:BC015109_1	1	0.45	cytoplasmic	39.1
GPN:BC015584_1	1	0.36	nuclear	34.8
GPN:BC015796_1	1	0.38	nuclear	52.2
GPN:BC017709_1	1	0.27	nuclear	52.2
GPN:BC020166_1	1	0.66	cytoplasmic	56.5
GPN:BC021208_1	1	0.87	nuclear	95.7
GPN:BC022352_1	1	0.44	cytoplasmic	43.5
GPN:BC023247_1	1	0.37	cytoplasmic	56.5
GPN:BC029482_1	1	0.43	mitochondrial	43.5
GPN:BC030129_1	1	0.93	nuclear	73.9
GPN:BC034346_1	1	0.02	mitochondrial	47.8
GPN:BC034525_1	1	0.65	nuclear	69.6
GPN:BC036800_1	1	0.84	nuclear	87.0
GP:BC039843_1	1	0.16	extracellular	33.3
GPN:BC040185_1	1	0.92	nuclear	100.0
GPN:BC043619_1	1	0.06	cytoplasmic	47.8
GPN:BC045623_1	1	0.52	nuclear	78.3
GPN:BC047880_1	1	0.34	nuclear	69.6
SW:BIN4_HUMAN	1	0.03	mitochondrial	65.2
GP:D79984_1	1	0.96	nuclear	100.0
SW:DD18_HUMAN	1	0.90	nuclear	87.0
SW:FK11_HUMAN	1	0.60	nuclear	47.8
SWN:FNB3_HUMAN	1	1.00	nuclear	82.6
SW:IF2B_HUMAN	1	0.37	cytoplasmic	78.3
SW:IF2P_HUMAN	1	0.54	nuclear	82.6
PIR2:JC4525	1	0.96	nuclear	69.6
PIR2:JC7363	1	0.61	nuclear	47.8
SW:MYH9_HUMAN	1	0.79	cytoplasmic	56.5
SW:MYHA_HUMAN	1	0.99	nuclear	78.3

Entry Name ^a	PredictNLS ^b	Nucpred ^c	PsortII localisation ^c	
PredictNLS positive				
SW:NU62_HUMAN	1	0.99	nuclear	95.7
SW:PDA3_HUMAN	1	0.54	nuclear	34.8
SW:PDX2_HUMAN	1	0.99	nuclear	82.6
SW:PERI_HUMAN	1	0.95	nuclear	73.9
SW:PLE1_HUMAN	1	0.90	nuclear	91.3
SWN:PRP3_HUMAN	1	0.76	nuclear	95.7
SW:PTCA_HUMAN	1	0.90	nuclear	82.6
SW:RB14_HUMAN	1	0.28	endoplasmic	44.4
SW:RB1B_HUMAN	1	0.13	nuclear	91.3
SW:RB8A_HUMAN	1	0.87	nuclear	91.3
SW:RL11_HUMAN	1	0.92	nuclear	78.3
SW:RL27_HUMAN	1	0.93	nuclear	82.6
SW:RL9_HUMAN	1	0.56	mitochondrial	73.9
SW:RNP2_HUMAN	1	0.18	mitochondrial	34.8
SW:ROL_HUMAN	1	0.01	cytoplasmic	56.5
SW:ROR_HUMAN	1	0.77	mitochondrial	56.5
SW:RPB5_HUMAN	1	0.83	nuclear	78.3
SW:RS3_HUMAN	1	0.40	cytoplasmic	39.1
SW:RS8_HUMAN	1	0.51	cytoplasmic	52.2
PIR2:S33377	1	0.30	cytoplasmic	52.2
PIR2:S50852	1	0.19	cytoplasmic	52.2
PIR2:S57447	1	0.35	cytoplasmic	43.5
SW:SBDS_HUMAN	1	0.97	nuclear	100.0
SW:SERA_HUMAN	1	0.59	nuclear	43.5
SW:SKD3_HUMAN	1	0.13	cytoplasmic	43.5
SW:STB1_HUMAN	1	0.31	nuclear	43.5
SW:SYEP_HUMAN	1	0.81	nuclear	95.7
PIR2:T00034	1	0.03	cytoplasmic	43.5
PIR2:T00074	1	0.07	mitochondrial	30.4
PIR2:T00372	1	0.05	cytoplasmic	52.2
PIR2:T08769	1	0.07	nuclear	39.1
PIR2:T09073	1	0.60	mitochondrial	82.6
PIR2:T12528	1	0.68	nuclear	73.9
PIR2:T13156	1	0.28	cytoplasmic	56.5
PIR2:T42680	1	0.41	nuclear	26.1
SW:TBA1_HUMAN	1	0.12	cytoplasmic	56.5
SW:UNRI_HUMAN	1	0.82	nuclear	73.9
SW:WDR5_HUMAN	1	0.71	nuclear	60.9
SW:Y152_HUMAN	1	0.87	nuclear	73.9
Psort and Nucpred Postive				
GP:AB000516_1	0	0.69	nuclear	73.9
GP:AB029028_1	0	0.99	nuclear	69.6
GP:AB032976_1	0	0.94	nuclear	87.0
GP:AC004611_2	0	0.61	nuclear	82.6
GP:AF073771_1	0	0.96	nuclear	87.0
GP:AF113534_1	0	0.65	nuclear	30.4
GP:AF155827_1	0	0.74	nuclear	34.8
GPN:AF227948_1	0	0.69	nuclear	82.6
GPN:AK026107_1	0	0.72	nuclear	73.9
GPN:AK030781_1	0	0.82	nuclear	87.0
GPN:AK039567_1	0	0.82	nuclear	69.6
GPN:AK045159_1	0	0.77	nuclear	52.2
GP:AK093060_1	0	0.94	nuclear	78.3
GPN:AK098547_1	0	0.62	nuclear	34.8
GPN:AK126214_1	0	0.69	nuclear	100.0
GPN:AK128368_1	0	0.60	nuclear	78.3
GP:AL832200_1	0	0.87	nuclear	73.9
GP:AL833978_1	0	0.79	nuclear	43.5

Entry Name ^a	PredictNLS ^b	Nucpred ^c	PsortII localisation ^c	
PredictNLS positive				
GP:AL834470_1	0	0.96	nuclear	91.3
SW:ANX2_HUMAN	0	0.68	nuclear	69.6
GP:AY186731_1	0	0.61	nuclear	69.6
GP:AY278023_1	0	0.93	nuclear	69.6
GPN:AY358793_1	0	0.66	nuclear	34.8
GPN:AY422990_1	0	0.63	nuclear	65.2
GPN:BC000017_1	0	0.94	nuclear	82.6
GPN:BC000131_1	0	0.76	nuclear	87.0
GPN:BC000591_1	0	0.92	nuclear	78.3
GPN:BC001024_1	0	0.98	nuclear	87.0
GPN:BC001107_1	0	0.68	nuclear	65.2
GPN:BC001378_1	0	0.98	nuclear	69.6
GPN:BC001384_1	0	0.86	nuclear	82.6
GPN:BC001568_1	0	0.99	nuclear	91.3
GPN:BC003696_1	0	0.79	nuclear	91.3
GPN:BC005125_1	0	0.98	nuclear	87.0
GPN:BC005934_1	0	0.78	nuclear	73.9
GPN:BC006224_1	0	0.67	nuclear	91.3
GPN:BC011355_1	0	0.72	nuclear	65.2
GPN:BC011684_1	0	0.73	nuclear	65.2
GPN:BC012583_1	0	0.83	nuclear	82.6
GPN:BC013889_1	0	0.89	nuclear	100.0
GPN:BC013949_1	0	0.63	nuclear	91.3
GPN:BC014184_1	0	0.75	nuclear	73.9
GPN:BC014987_1	0	0.96	nuclear	78.3
GPN:BC015474_1	0	0.98	nuclear	82.6
GPN:BC015477_1	0	0.66	nuclear	73.9
GPN:BC016944_1	0	0.88	nuclear	60.9
GPN:BC017693_1	0	0.81	nuclear	39.1
GPN:BC017734_1	0	0.67	nuclear	39.1
GPN:BC019069_1	0	0.99	nuclear	100.0
GPN:BC023144_1	0	0.90	nuclear	82.6
GPN:BC023532_1	0	0.96	nuclear	78.3
GPN:BC024238_1	0	0.94	nuclear	95.7
GPN:BC025279_1	0	0.62	nuclear	87.0
GPN:BC026222_1	0	0.88	nuclear	91.3
GPN:BC028396_1	0	0.76	nuclear	73.9
GPN:BC032640_1	0	0.97	nuclear	87.0
GPN:BC032797_1	0	0.81	nuclear	60.9
GPN:BC033074_1	0	0.94	nuclear	82.6
GPN:BC036187_1	0	0.99	nuclear	78.3
GPN:BC037428_1	0	0.61	nuclear	91.3
GPN:BC039828_1	0	0.98	nuclear	73.9
GPN:BC040943_1	0	0.80	nuclear	73.9
GPN:BC049850_1	0	0.95	nuclear	73.9
GPN:BC050528_1	0	0.86	nuclear	78.3
GPN:BC050546_1	0	0.97	nuclear	95.7
GPN:BC050557_1	0	0.92	nuclear	56.5
GPN:BC051893_1	0	0.82	nuclear	69.6
GPN:BC051913_1	0	0.75	nuclear	87.0
GPN:BC052279_1	0	0.81	nuclear	39.1
GPN:BC054004_1	0	0.73	nuclear	69.6
GPN:BC056406_1	0	0.94	nuclear	78.3
GPN:BX640750_1	0	0.88	nuclear	69.6
GPN:BX640952_1	0	0.75	nuclear	65.2
SW:CV19_HUMAN	0	0.95	nuclear	69.6
SW:DD10_HUMAN	0	0.71	nuclear	52.2
SW:DD24_HUMAN	0	0.92	nuclear	69.6

Entry Name ^a	PredictNLS ^b	Nucpred ^c	PsortII localisation ^c	
PredictNLS positive				
SW:DIL2_HUMAN	0	0.78	nuclear	43.5
SW:DJC8_HUMAN	0	0.63	nuclear	69.6
SW:K103_HUMAN	0	0.75	nuclear	95.7
SW:K117_HUMAN	0	0.71	nuclear	73.9
SW:KFC1_HUMAN	0	0.74	nuclear	39.1
SW:MAP4_HUMAN	0	0.61	nuclear	43.5
SW:MEM1_HUMAN	0	0.93	nuclear	34.8
SW:NO56_HUMAN	0	0.92	nuclear	82.6
SW:ORP8_HUMAN	0	0.95	nuclear	87.0
SW:PGC2_HUMAN	0	0.91	nuclear	91.3
SWN:PHFE_HUMAN	0	0.91	nuclear	100.0
SWN:RDHE_HUMAN	0	0.94	nuclear	100.0
SW:RL13_HUMAN	0	0.86	nuclear	78.3
SW:RL24_HUMAN	0	0.80	nuclear	82.6
SW:RL4_HUMAN	0	0.83	nuclear	100.0
SW:RL6_HUMAN	0	0.86	nuclear	34.8
SW:RL7_HUMAN	0	0.94	nuclear	34.8
SW:RS5_HUMAN	0	0.85	nuclear	69.6
SW:RU17_HUMAN	0	0.94	nuclear	100.0
SW:RU1A_HUMAN	0	0.70	nuclear	78.3
SW:S3A3_HUMAN	0	0.60	nuclear	69.6
SWN:SA2_HUMAN	0	0.86	nuclear	65.2
SW:SEC8_HUMAN	0	0.78	nuclear	78.3
SW:SEP7_HUMAN	0	0.60	nuclear	34.8
SW:SFR3_HUMAN	0	0.60	nuclear	91.3
SW:SN21_HUMAN	0	0.66	nuclear	65.2
SW:SN24_HUMAN	0	0.93	nuclear	73.9
SW:SPCN_HUMAN	0	0.91	nuclear	95.7
SW:SPCO_HUMAN	0	0.62	nuclear	82.6
PIR2:T00059	0	0.69	nuclear	82.6
PIR2:T00333	0	0.76	nuclear	73.9
PIR2:T00374	0	0.82	nuclear	100.0
PIR2:T08693	0	0.84	nuclear	47.8
PIR2:T08745	0	0.99	nuclear	91.3
PIR2:T14790	0	0.91	nuclear	69.6
PIR2:T17316	0	0.73	nuclear	87.0
SW:T2D7_HUMAN	0	0.68	nuclear	87.0
PIR2:T46248	0	0.72	nuclear	43.5
PIR2:T46429	0	0.86	nuclear	69.6
PIR2:T47145	0	0.87	nuclear	100.0
SW:TCE1_HUMAN	0	0.77	nuclear	100.0
SW:TDBP_HUMAN	0	0.99	nuclear	82.6
SW:THPA_HUMAN	0	0.81	nuclear	78.3
SW:TOP1_HUMAN	0	0.97	nuclear	60.9
SW:TRIB_HUMAN	0	0.99	nuclear	95.7
SWN:UXD2_HUMAN	0	0.90	nuclear	39.1
SW:Y056_HUMAN	0	0.93	nuclear	73.9

^a Entry Name in NCBI, SWISS-Prot, or PIR databases

^b PredictNLS scans the sequence against a library of 241 known and potential Nuclear Localisation Signal (NLS) motifs. PredictNLS gives 87% specificity on the dataset of eukaryotic proteins in the SWISS-PROT database.

^c NucPred uses evolvable sequence classifiers (obtained by Genetic Programming algorithms) to predict nuclear localization. PsortII uses a limited set of NLS patterns, ribo-nuclear protein motifs and global amino acid frequency information to predict nuclear localization. Both these tools provide intermediate specificity and sensitivity: NucPred score of >0.6 gives a specificity of ~70% and a sensitivity of ~55%, where as PsortII gives a specificity and sensitivity of ~62%. To make the decision criterion more stringent, we choose only those proteins which gave a score of >0.6 with NucPred and were also predicted to be nuclear by PsortII.