

Table 2: Group and sub-group specific conserved motifs

Motif	E-value	Consensus sequences
1	3.60E-146	L[RK]MGIDPVT[ST]PRLDLLD[IL]SSIL[NRS][SA][LFI][YG][NG]
2	1.80E-44	[AHY][ANS][NY][DS][SK]N[FY][DN]D[GD]M[DE]FW[YF]D[IV][FL][TAI][RKS][ST][GN][ED][SI]IEL[LPS]E
3	7.40E-32	[EP][ETD][INTV][MN][PAL][APV][IL]DE[SD]FWSE[VA][LAT][SIV][DS][DY][EN]
4	8.10E-13	[KD][PK][NP]xL[IL]EIP[FW][DE][LPS]D[HPY]D[FI]W[SK][FL][LI]D
5	2.20E-17	PKL[LF]F[SA]EWL
6	1.00E-90	[HIK][KV][AK][PS][SAE][PT]STRHM[AV]QWES[AV]R[LV]EAEARLS[RN]E
7	2.80E-58	[SY]W[NP][NT][NS]KT[DC][SP]D[HY]FL[RQ][IL]WNSEVG[EK][SA]FR[DMN][VI][HK][GK]
8	1.90E-27	D[TS][AS]L[QK][LH]LL[DH][FM]P[ID][NS][ND][DM]
9	7.60E-95	[RK]GQWERRLQTDI[NH]MAK[QKR]AL[SC]EALS[PL][DN]K[PA]
10	8.00E-64	[PT][TN][TP][TY][QP][ST][GMT][CTV]YASS[AT][DE]NIA[ARK]LL[KQ][GN][WF]MK[ND][TS]P K
11	4.40E-31	[QD][GM][PS][FL]SL[FL]EKWL[FL]D[DE][QA][GAS][CGH]Q[EMQ]
12	1.20E-145	[KT]N[DE][AT]LLS[ST][DEL]G[QP]SK[DNT]AANLHMAQWESARLEAEARL[VA]RESK[LI]
13	8.30E-22	[IT]T[SV]N[AV][GT][RV][SV][GQS][DQ]LESPTST[LV][SFE][SN][EN]N[AV]P[MPS]
14	2.00E-48	[DN][LFY]YE[DE]N[KN]NYWN[SN][LF]NL[VM][ND][SY][PS]
15	3.70E-12	GIG[L.P][EQ][KS]DNIRDPL[EV]PNLTSPSHS[IV]TSAKLLNKMATSLPHKV[HY]GLEA[AV]KA VFSKLME
16	3.60E-19	[FQ]VG[GS]CLNALSPFED[GK]PHI[ST]K[IT]IDSPS[GS]PTLMFN[HQ]VTTTPSCFSEDNEDNWQ CVSSNYVSF[KR][IN]CAA[NS]GG
17	5.40E-33	[LG][GM][AH]Q[APY][LV][VM]NPE[LFI]LKLA
18	4.10E-12	S[VE][LS][SV]TP[SL]S[ST]PTPLNS
19	2.90E-37	[YFIS][VNS][NG][SCG][SNT]TE[DE]ER[DE][STQ][YS][CYG][SD]
20	4.20E-22	[LQ]A[ELR][ALQ][QTV][EQ][LM]AKLQ[YCL][LF][QH][YQ]
21	1.40E-22	[NY][AGV][EG][DG][ANP][SC][ST][YI]W[PS][ED][LH]L[LF][ED]
22	2.30E-18	[EF][EL][MT]WGDFM[DY]EE
23	8.20E-18	KT[QL]VYLPKPIRVKA[ML][YS][LS][QC][RI][TP][DR]
24	7.30E-15	HG[TN]L[QE][QK]LYEY[FL]QLLN[MV][DE][EHQ][GK][QP][FD]E[LR][ND]SFA[EQ]SLL
25	6.90E-36	[PYL][NG][HFNQ][DQT][NE][ND][LQV][QTE][TA][KN][PI][PK][VIM]QE[TA][LF]FS[SH][TK][CP]PLF[M][FV]DT
26	1.70E-35	[FL][EG][SP][VN][NK][IM]G[VAL][EG]GD[FM][SYF][VL]P[PS]LE[SN][RV][ST][ICT][ET][SR][ND]
27	1.90E-55	[EIV][ELS]E[RP][CH][PH][DQ]LNL[ED]L[SRT]I[SG][PL]P[SRW]Q[PQ]Q
28	5.80E-38	ERCPDLNLEL[RT]ISPP[RW]QQQ
29	3.90E-21	CF[AV]C[SR][LF]G[LM]HN[SG][KM][DE]C[SR]
30	3.20E-29	[LF]DMK[GK][IM][ANS]LLE[DE][ND]NHRVP[SY]IS
31	2.00E-25	M[HY][APQ][NA][TC][ST][EP][ER][QK]GY[FL]Y[SN]M[FV][NI][PV][NF][CD]
32	5.40E-12	[WF][EG][LV][GMR][SK]SPYE[TN]RI[LS]DWI[AS]E[LI][QS][NT][GD][YQ][GS][ED][AKN][EN JL]ES[QE]D[CH][NS]S[TN][GS][TC][CS][NE][NY][YN]
33	8.80E-28	NYWS[MI][ED]DIWS[MS]
34	1.00E-46	W[TND][DV]E[NS][MFI][WLC][FL]LQQ
35	2.00E-37	[NS]SGLLD[AD]LLEEA[QEK]A[LM][SA][GS][KEG][NK]SK[KS][DR][KR]S
36	1.70E-36	GHRA[LW][AG][TD]HKKEAAWRL[SR]R[VL]ELQLESEK[TA][NC]R[RQ]REK[IM]EE[FI]EAK[IM]KAL[QR]EE[EQ][KL][AN]A[LM][GE][RK]IE[AG]EYREQL[ADV][AG]LRRDAE[NA]K[ED] QKLA
37	6.80E-20	[LV][FHY]RPV[AP]R[VLM][SG][AS]F[SN][VAI][YC][NHH]
38	5.20E-19	[CDY][CDGSY][ED][PQR][FIMQS][VI]P[SHQ][KQT]CG[HG]GC[CS]
39	7.10E-26	[EA][LF][IA][SA][AS][TN][DE][LI][NGS][NS][ILT]AW[IL][KR]SG[LK][ED]
40	1.70E-55	[ET]T[SA]SS[SE]DDP[PA]TSLSLSLPG[VAF]D
41	1.90E-124	F[SG][GA]EF[ML][AT]V[MV]QEMI[RK]KEVRSYM[SAE]x[ML][QE][QR][GN]NG
42	3.40E-33	[PKV][RG][PN][NS][IL]L[EQ][DN]YI[KR]S[IL][TNE][ILQ][NI]
43	2.50E-150	[RM][LV][SI]RVELQLESEK[AT][GN]RRREK[IM]EE[FI]EAKIKAL[QR]EE[EQ][TKL]AAL[DG] RIEAEYREQL[AD][AG]LRRDAE[NS]KEQKLAEQW[AD]AKHLR[LF]T[KR][FL]LEQ[LSV][GD][CT][RI]
44	4.10E-109	RIGMTPTTRDGFSSMTPKGTPLRD[AE]LHINEDMNMHDSTKLELQRQADMRRSLRSLGLSLP QPKNEYQIVM[PQ]PV[LP]EAAEPEEKIEEDMSDRIAREKAEAEARQQALLRKRSKVLQRELP RPPTASLELIRNSLMRTD[GV]DKSSFVPPTSIEQADEMIRRELL[ST]LLEHDN[AG]KYPLD[DE] KVIKEKKKGAKRAVNGSAVPVIEDF[EQ]EDEMKEADKLIKEALYLCAAMGHEDEPLDEFIE AHRITCLNDLMYFPTR
45	4.10E-171	A[QE]NNKIQTFLKKDDPK[IV][NST]ALMQQAELLSSLA[LQ]KV[DN]A[ED]N[MT]DQS[LM] ENAWKVLQ[ED]FLN[RK][TS]KE[SN]D[IL][PF][RG][YQ][KG]IPD
46	1.00E-48	[LF]QLV[DE][LF]KDL[IL][EA]DL[KR]S[GS][NS]E[ED][GI]Q[AP][CS]WRQ[MPV][DE]L[YH]
47	1.80E-123	[EK]FSSP[LI]QVTPLFRLSLA[AD]GIPSPQFSESER[SN]FL[MRL]KTLG[MII]ES[PS]S[ILP][NC]PS[AV]N[PS]S[QK]PP[PL]CKR[AV]JLL[IPH]
48	4.90E-79	GIDYNAEIPFEKR[PA]P[PA]GF[FY]D[VT][TA]DEDRP[VA][ED]Q[PV][QK]FPTTIEEGKRR[VA]DVEA[QH]LRKQD[IV]A[KR]NKIAQRQDAP[SA]AIL[HQ]ANKLNDPE[TV]VRKRSKMLMP PPQISD[QH]
49	3.50E-92	KGDAIMMEAENLARLR[ED]SQTPLLGGENPELHPSDF[NST]GVTP[KR]KKEIQTPNMLTPS[AM]TPG[GA]AGLTPRIG[ML]TP[TS]RDG[FS]SFSMTPKGTP[LF]RD[EA]LHINEDM[ND]MH
50	6.20E-59	I[ED]DF[DEQ]E[DN]E[ML][KQ]EADK[LM]KEE[AG][LK][YF]LC[AV][AS]MGHE[DN][EK][PT JLD[ED]F[IV]EAH[RN]TC[LV]NDLMYFPTR[NS]AY[GE]LSSVAGN[MA][ED]K[LV][AT]A[LF] Q[NE]E[FM]ENVR

