

Supplementary Table 3: Benchmarking results for our study using Pfam HMMs. The RNA-binding domains (RBDs) are represented in blue font.

Entry	Domain architecture predicted by our method	Pfam domain architecture	Benchmarking status
Q6P158	DEAD~HA2~OB_NTP_bind	RWD~DEAD~Helicase_C~HA2~OB_NTP_bind	Benchmarked
Q9NV66	Wyosine_form	Flavodoxin_1~Radical_SAM~Wyosine_form	Benchmarked
P07814	tRNA-synt_1c~tRNA-synt_1c_C~tRNA-synt_2b~HGTP_anticodon~ProRS-C_1	GST_C_3~tRNA-synt_1c~tRNA-synt_1c_C~WHEP-TRS~WHEP-TRS~tRNA-synt_2b~HGTP_anticodon~ProRS-C_1	Benchmarked
Q9UL40	zf-met~zf-met~zf-met~zf-met	zf-met~zf-met~zf-met~zf-met	Benchmarked
O15457	MutS_II	MutS_II~MutS_III~MutS_V	Benchmarked
Q8WYQ5	dsrm~dsrm	dsrm~dsrm	Benchmarked
Q9NR30	DEAD~GUCT	DEAD~Helicase_C~GUCT	Benchmarked
P56182	Nop52	Nop52	Benchmarked
O75127	PPR~PPR~PPR_3~PPR~PPR_3~PPR	PPR_2~PPR_2~PPR_2~PPR_2~PPR_2	Not Benchmarked
P15170	GTP_EFTU~GTP_EFTU_D3	GTP_EFTU~GTP_EFTU_D3	Benchmarked
Q8WW27	APOBEC_N	APOBEC_N	Benchmarked
O43432	MIF4G	MIF4G~MA3~W2	Benchmarked
O75648	tRNA_Me_trans	tRNA_Me_trans	Benchmarked
Q9NW08	RNA_pol_Rpb2_1~RNA_pol_Rpb2_3~RNA_pol_Rpb2_4~RNA_pol_Rpb2_5~RNA_pol_Rpb2_6~RNA_pol_Rpb2_7	RNA_pol_Rpb2_1~RNA_pol_Rpb2_3~RNA_pol_Rpb2_4~RNA_pol_Rpb2_5~RNA_pol_Rpb2_6~RNA_pol_Rpb2_7	Benchmarked
Q5ST30	tRNA-synt_1~Anticodon_1	tRNA-synt_1~Anticodon_1	Benchmarked
Q15650	ASCH	zf-C2HC5~ASCH	Benchmarked
P49411	GTP_EFTU~GTP_EFTU_D2~GTP_EFTU_D3	GTP_EFTU~GTP_EFTU_D2~GTP_EFTU_D3	Benchmarked
P47897	tRNA_synt_1c_R1~tRNA_synt_1c_R2~tRNA_synt_1c~tRNA_synt_1c_C	tRNA_synt_1c_R1~tRNA_synt_1c_R2~tRNA_synt_1c~tRNA_synt_1c_C	Benchmarked
P49588	tRNA-synt_2c~tRNA_SAD~D_HHA1	tRNA-synt_2c~tRNA_SAD~D_HHA1	Benchmarked
O00425	RRM_1~RRM_1~KH_1~KH_1~KH_1~KH_1	RRM_1~RRM_1~KH_1~KH_1~KH_1~KH_1	Benchmarked
Q96M93	dsrm~A_deamin	dsrm~A_deamin	Benchmarked
Q5T9C2	NT-C2	NT-C2	Benchmarked
P57723	KH_1~KH_1~KH_1	KH_1~KH_1~KH_1	Benchmarked
P26639	tRNA_SAD~tRNA-	TGS~tRNA_SAD~tRN	Benchmarked

	synt_2b~HGTP_anticodon	A-synt_2b~HGTP_anticodon	
Q14191	DNA_pol_A_exo1~DEAD~HRDC	DNA_pol_A_exo1~DEAD~Helicase_C~RecQ_Zn_bind~RQC~HRDC~HTH_40	Benchmarked
Q9UHI6	DEAD	DEAD~Helicase_C	Benchmarked
O60381	AXH	AXH~HMG_box	Benchmarked
Q9BYX4	DEAD~RIG-I_C-RD	CARD_2~CARD_2~ResIII~Helicase_C~RIG-I_C-RD	Benchmarked
Q92499	DEAD	DEAD~Helicase_C	Benchmarked
P29728	OAS1_C~OAS1_C	NTP_transf_2~OAS1_C~NTP_transf_2~OAS1_C	Benchmarked
Q13395	SpoU_methylase	SpoU_methylase	Benchmarked
O14730	RIO1	RIO1	Benchmarked
O60832	TruB_N~TruB_C_2~PUA	DKCLD~TruB_N~TruB_C_2~PUA	Benchmarked
Q86TM3	KH_1~DEAD	KH_1~DEAD~Helicase_C	Benchmarked
Q9HCE5	MT-A70	MT-A70	Benchmarked
Q66K41	zf-met~zf-met~zf-met	zf-met~zf-met~zf-met	Benchmarked
Q8IWZ8	Surp~Surp~G-patch	Surp~Surp~G-patch	Benchmarked
O00178	GTP_EFTU	GTP_EFTU	Benchmarked
Q8NHU6	OST-HTH~OST-HTH	OST-HTH~OST-HTH~TUDOR~TUDOR~TUDOR	Benchmarked
O75534	CSD~CSD~CSD~CSD~S1-like~CSD~CSD~SUZ-C	CSD~CSD~CSD~CSD~S1-like~CSD~CSD~SUZ-C	Benchmarked
P62314	LSM	LSM	Benchmarked
P18583	G-patch	RSRP~G-patch	Benchmarked
Q99973	TROVE	TEP1_N~TEP1_N~TEP1_N~TEP1_N~TROVE~DUF4062~NACHT~WD40~WD40~WD40~WD40	Benchmarked
Q9H3R0	JmjC	JmjN~JmjC~PHD_2~zf-HC5HC2H_2	Benchmarked
Q8IYX4	RRM_1~RRM_1	RRM_1~RRM_1~DND1_DSRM	Benchmarked
A2PYH4	DEAD	DEAD~Helicase_C~Sec63	Benchmarked
Q96H40	zf-C2H2_jaz~zf-C2H2_jaz~zf-C2H2_jaz~zf-C2H2_jaz~zf-C2H2_jaz~zf-C2H2_jaz~zf-C2H2_jaz~zf-C2H2_jaz	KRAB~zf-H2C2_2~zf-C2H2~zf-H2C2_2~zf-H2C2_2~zf-H2C2_2~zf-H2C2_2~zf-H2C2_2~zf-H2C2_2~zf-H2C2_2	Not Benchmarked
P19474	zf-C3HC4	zf-C3HC4_4~PRY~SPRY	Not Benchmarked
P49590	HGTP_anticodon	tRNA-synt_His~HGTP_anticodon	Benchmarked

		on	
O60841	GTP_EFTU~GTP_EFTU_D2~IF-2~GTP_EFTU_D2	GTP_EFTU~IF-2~GTP_EFTU_D4	Not Benchmarked
P49591	tRNA-synt_2b	Seryl_tRNA_N~tRNA-synt_2b	Benchmarked
O75153	eIF3_p135	CLU_N~CLU~eIF3_p135~TPR_12~TPR_12	Benchmarked
Q9NXZ2	KH_1~DEAD	KH_1~DEAD~Helicase_C	Benchmarked
P26378	RRM_1~RRM_1~RRM_1	RRM_1~RRM_1~RRM_1	Benchmarked
P05198	S1	S1~EIF_2_alpha	Benchmarked
Q12904	tRNA_bind	tRNA_bind	Benchmarked
O75643	DEAD~DEAD	DEAD~Helicase_C~Sec63~DEAD~Helicase_C~Sec63	Benchmarked
Q96F86	YjeF_N	Edc3_linker~FDF~YjeF_N	Benchmarked
Q5H9K5	zf-met~zf-met~zf-met	zf-met~zf-met~zf-met	Benchmarked
Q96J94	PAZ~Piwi	GAGE~PAZ~Piwi	Benchmarked
P62495	eRF1_1~eRF1_2~eRF1_3	eRF1_1~eRF1_2~eRF1_3	Benchmarked
Q9BQ52	Lactamase_B_4	Lactamase_B_4~Lactamase_B_2	Benchmarked
O43414	RNase_T	RNase_T	Benchmarked
P21399	Aconitase	Aconitase~Aconitase_C	Benchmarked
Q8IUX4	APOBEC_N~APOBEC_N	APOBEC_N~APOBEC_N	Benchmarked
P35269	TFIIF_alpha	TFIIF_alpha	Benchmarked
Q07955	RRM_1~RRM_1	RRM_1~RRM_1	Benchmarked
Q05516	zf-C2H2_jaz~zf-C2H2_jaz~zf-C2H2_jaz~zf-met~zf-met~zf-met	BTB~zf-H2C2_2~zf-C2H2_6~zf-C2H2~zf-C2H2_6~zf-H2C2_2~zf-H2C2_2~zf-H2C2_2	Not Benchmarked
O43310	MIF4G	MIF4G	Benchmarked
Q9UIJ7	ADK_lid	ADK	Not Benchmarked
P27144	ADK_lid	ADK	Not Benchmarked
Q9NVR5	PIH1	PIH1	Benchmarked
Q15046	tRNA_anti-codon~tRNA-synt_2	tRNA_anti-codon~tRNA-synt_2	Benchmarked
Q15306	IRF-3	IRF~IRF-3	Benchmarked
P41250	tRNA-synt_2b~HGTP_anticodon	WHEP-TRS~HGTP_anticodon	Benchmarked
Q9BXT4	SMN~SMN~SMN~SMN	zf-MYND~TUDOR~TUDOR~TUDOR~TUDOR	Not Benchmarked
Q86U44	MT-A70	MT-A70	Benchmarked
Q9NXH9	TRM	TRM	Benchmarked
P26640	tRNA-synt_1~Anticodon_1	GST_C~tRNA-synt_1~Anticodon_1	Benchmarked
P33240	RRM_1~CSTF_C	RRM_1~CSTF2_hinge~CSTF_C	Benchmarked

P54136	DALR_1	Arg_tRNA_synt_N~tRNA-synt_1d~DALR_1	Benchmarked
Q9Y235	APOBEC_N	APOBEC_N	Benchmarked
Q9BRX2	eRF1_1~eRF1_2~eRF1_3	eRF1_1~eRF1_2~eRF1_3	Benchmarked
Q96EK9	KTI12	KTI12	Benchmarked
O43167	zf-C2H2_jaz~zf-C2H2_jaz~zf-C2H2_jaz~zf-met~zf-met~zf-C2H2_jaz~zf-met	BTB~zf-H2C2_2~zf-H2C2_2~zf-H2C2_2~zf-H2C2_2~zf-H2C2_2~zf-H2C2_2	Not Benchmarked
P52701	MutS_II	PWWP~MutS_I~MutS_I I~MutS_III~MutS_V	Benchmarked
P09234	zf-U1	zf-U1	Benchmarked
P29083	TFIIE_alpha	TFIIE_alpha~TF_Zn_Ribbon~TFIIE-A_C	Benchmarked
Q4G0J3	La~RRM_1~RRM_3	La~RRM_1~RRM_3	Benchmarked
P31483	RRM_1~RRM_1~RRM_1	RRM_1~RRM_1~RRM_1	Benchmarked
O00267	Spt5_N~Spt5-NGN	Spt5_N~Spt5-NGN~KOW~KOW~KOW~KOW~KOW~KOW	Benchmarked
O00566	Mpp10	Mpp10	Benchmarked
Q14232	IF-2B	IF-2B	Benchmarked
Q9UBB9	G-patch	TIP_N~G-patch~GCFC	Benchmarked
P10073	zf-C2H2_jaz~zf-C2H2_jaz~zf-C2H2_jaz~zf-C2H2_jaz~zf-C2H2_jaz~zf-C2H2_jaz	SCAN~zf-H2C2_2~zf-H2C2_2~zf-H2C2_2~zf-H2C2_2~zf-H2C2_2~zf-H2C2_2	Not Benchmarked
Q05823	Ribonuc_2-5A	Ank_2~Ank_2~Ank_2~Ank_2~Pkinase~Ribonuc_2-5A	Benchmarked
Q9BXS6	NUSAP	NUSAP	Benchmarked
Q9Y2P8	RTC	RTC	Benchmarked
Q9Y6K5	OAS1_C~OAS1_C~OAS1_C	NTP_transf_2~OAS1_C~NTP_transf_2~OAS1_C~NTP_transf_2~OAS1_C	Benchmarked
P98175	RRM_6~RRM_6~G-patch	RRM_6~RRM_6~G-patch	Benchmarked
P62316	LSM	LSM	Benchmarked
Q9HA38	zf-met~zf-met~zf-C2H2_jaz	zf-met~zf-met~zf-C2H2_jaz	Benchmarked
Q9BRS2	RIO1	RIO1	Benchmarked
Q86XP3	DEAD	DEAD~Helicase_C	Benchmarked
Q9BYD3	Ribosomal_L4	Ribosomal_L4	Benchmarked
P52756	RRM_6~RRM_6~G-patch	RRM_6~zf-RanBP~RRM_6~G-patch	Benchmarked
Q96I24	KH_1~KH_1~KH_1~KH_1	KH_1~KH_1~KH_1~KH_1	Benchmarked
P08579	RRM_5~RRM_1	RRM_5~RRM_1	Benchmarked

		K~Apt1	
P23246	RRM_1~RRM_1	RRM_1~RRM_1~NOPS	Benchmarked
P54132	DEAD~HRDC	BLM_N~BDHCT~BDHCT_assoc~DEAD~Helicase_C~RecQ_Zn_bind~RQC~HRDC	Benchmarked
Q86TW2	ABC1	ABC1	Benchmarked
Q9BRA0	LSM	LSM	Benchmarked
Q92793	Creb_binding	zf-TAZ~KIX~Bromodomain~DUF902~HAT_KAT11~ZZ~zf-TAZ~Creb_binding	Benchmarked
Q9NQ50	MRP-L28	MRP-L28	Benchmarked
Q9H0A0	Helicase_RecD~tRNA_bind_2	DUF1726~Helicase_RecD~GNAT_acetyltr_2~tRNA_bind_2	Benchmarked
Q14653	IRF-3	IRF~IRF-3	Benchmarked
P23588	RRM_1	RRM_1	Benchmarked
Q9NPD3	RNase_PH	RNase_PH	Benchmarked
Q9P2I0	Beta-Casp~RMMBL	Lactamase_B_6~Beta-Casp~RMMBL~CPSF100_C	Benchmarked
Q96JY0	Maelstrom	HMG_box_2~Maelstrom	Benchmarked
Q9P2N5	RRM_6	RRM_6	Benchmarked
Q9BVS4	RIO1	Rio2_N~RIO1	Benchmarked
P29375	JmjC	JmjN~ARID~PHD~JmjC~zf-C5HC2~PLU-1~PHD~PHD	Benchmarked
Q07617	RPAP3_C	TPR_11~TPR_9~TPR_11~TPR_1~TPR_11~TPR_1~TPR_1~RPAP3_C	Benchmarked
Q9H583	U3snoRNP10~U3snoRNP10~BP28CT	U3snoRNP10~HEAT~U3snoRNP10~BP28CT~HEAT	Benchmarked
Q6ZN17	CSD	CSD	Benchmarked
A2AJT9	THRAP3_BCLAF1	THRAP3_BCLAF1	Benchmarked
P43034	Nup160~Nup160~Nup160~Nup160~Nup160	WD40~WD40~WD40~WD40~WD40~WD40~WD40~WD40	Not Benchmarked
P41182	zf-C2H2_jaz~zf-met~zf-met~zf-met~zf-met	BTB~zf-H2C2_2~zf-C2H2~zf-H2C2_2~zf-H2C2_2~zf-H2C2_2~zf-H2C2_2~zf-H2C2_2	Not Benchmarked
P05455	La~RRM_1~RRM_3	La~RRM_1~RRM_3	Benchmarked
O14607	JmjC	TPR_11~TPR_11~TPR_1~TPR_8~TPR_11~TPR_11~JmjC	Benchmarked
Q01780	DNA_pol_A_exo1~HRDC	PMC2NT~DNA_pol_A_exo1~HRDC	Benchmarked
P36578	Ribosomal_L4	Ribosomal_L4~Ribos_L4_asso_C	Benchmarked
Q13901	Sas10_Utp3	Sas10_Utp3	Benchmarked
O75891	Formyl_trans_N	Formyl_trans_N~Formyl	Benchmarked

Q8NDI1	NT-C2	NT-C2~CH~DUF3585	Benchmarked
P62318	LSM	LSM	Benchmarked
Q96GQ7	DEAD	DEAD~Helicase_C	Benchmarked
Q13206	DEAD	DEAD~Helicase_C~DUF4217	Benchmarked
Q8TDP1	RNase_H2_suC	RNase_H2_suC	Benchmarked
Q9UPY3	DEAD~Dicer_dimer~PAZ	ResIII~Helicase_C~Dicer_dimer~PAZ~Ribonuclease_3~Ribonuclease_3	Not Benchmarked
P38159	RRM_1~RBM1CTR	RRM_1~RBM1CTR	Benchmarked
Q9Y450	HBS1_N~GTP_EFTU~GTP_EFTU_D3	HBS1_N~GTP_EFTU~GTP_EFTU_D3	Benchmarked
O95453	CAF1	CAF1~RNA_bind	Benchmarked
P09012	RRM_1~RRM_1	RRM_1~RRM_1	Benchmarked
O95260	ATE_N~ATE_C	ATE_N~ATE_C	Benchmarked
P52597	RRM_6~RRM_1~RRM_6	RRM_6~RRM_1~zf-RNPHF~RRM_6	Benchmarked
O75569	dsrm~dsrm~Staufen_C	dsrm~dsrm~dsrm	Not Benchmarked
P41238	APOBEC_N	APOBEC_N	Benchmarked
P26599	RRM_5~RRM_1~RRM_5~RRM_6	RRM_5~RRM_1~RRM_5~RRM_6	Benchmarked
O75164	JmjC	JmjN~JmjC~PHD_2~zf-HC5HC2H_2	Benchmarked
P43246	MutS_II	MutS_I~MutS_II~MutS_III~MutS_V	Benchmarked
Q9H4Q4	zf-C2H2_jaz~zf-C2H2_jaz~zf-C2H2_jaz	zf-H2C2_2~zf-H2C2_2	Benchmarked
Q6IN84	SpoU_sub_bind~SpoU_methylase	SpoU_sub_bind~SpoU_methylase	Benchmarked
Q9BXR3	RVT_1~RNase_H	RVT_1~RVT_thumb~RNase_H~Integrase_Zn~reve	Benchmarked
O94901	MRP	MRP~Sad1_UNC	Benchmarked
Q9NYY8	RAP	FAST_1~RAP	Benchmarked
O15054	JmjC	JmjC	Benchmarked
Q12788	Utp13	WD40~WD40~WD40~WD40~WD40~WD40~WD40~Utp13	Benchmarked
O15226	G-patch	G-patch~R3H	Benchmarked
P55199	ELL~Occludin_ELL	ELL~Occludin_ELL	Benchmarked
P41252	tRNA-synt_1~Anticodon_1	tRNA-synt_1~Anticodon_1	Benchmarked
P35637	RRM_1	RRM_1~zf-RanBP	Benchmarked
Q969S9	GTP_EFTU	GTP_EFTU~EFG_II~EFG_IV~EFG_C	Benchmarked
P26368	RRM_6~RRM_1~RRM_1	RRM_6~RRM_1~RRM_1	Benchmarked
Q9ULH7	SAP	RPEL~RPEL~RPEL~SAP	Benchmarked
P19525	dsrm~dsrm	dsrm~dsrm~Pkinase	Benchmarked
P78344	MIF4G	MIF4G~MA3~W2	Benchmarked
Q9BUI4	HTH_9~RNA_pol_Rpc82~HTH_9	HTH_9~RNA_pol_Rpc82	Benchmarked

O60942	mRNA_cap_enzyme~mRNA_cap_C	DSPc~mRNA_cap_enzyme~mRNA_cap_C	Benchmarked
Q9Y2R4	DEAD	DEAD~Helicase_C	Benchmarked
Q69384	HERV-K_REC	HERV-K_REC~HERV-K_env_2~GP41	Benchmarked
Q9UHL0	DEAD	DEAD~Helicase_C	Benchmarked
P27694	tRNA_anti-codon	Rep-A_N~tRNA_anti-codon~REPA_OB_2~Rep_fac-A_C	Benchmarked
P30876	RNA_pol_Rpb2_1~RNA_pol_Rpb2_3~RNA_pol_Rpb2_4~RNA_pol_Rpb2_5~RNA_pol_Rpb2_6~RNA_pol_Rpb2_7	RNA_pol_Rpb2_1~RNA_pol_Rpb2_3~RNA_pol_Rpb2_4~RNA_pol_Rpb2_5~RNA_pol_Rpb2_6~RNA_pol_Rpb2_7	Benchmarked
Q9H074	MIF4G	MIF4G	Benchmarked
Q15031	tRNA-synt_1~tRNA-synt_1~tRNA-synt_1~Anticodon_1	tRNA-synt_1~tRNA-synt_1~tRNA-synt_1~Anticodon_1	Benchmarked
Q86XN8	KH_1~KH_1	KH_1~KH_1~zf-C3HC4_3	Benchmarked
P41229	JmjC	JmjN~ARID~PHD~JmjC~zf-C5HC2~PLU-1~PHD~PLU-1	Benchmarked
Q902F8	HERV-K_REC	HERV-K_REC~HERV-K_env_2~GP41	Benchmarked
Q99613	eIF-3c_N	eIF-3c_N~PCI	Benchmarked