

Akt1 (\$473 highlighted)

Human Sequence: NCBI Reference Sequence: NP_005154.2

Mousebird Sequence: GenBank: KFP32138.1

CLUSTAL O(1.2.4) multiple sequence alignment

Homo_sapiens	MSDVAIVKEGWLHKRGEYIKTWRPRYFLLKNDGTFIGYKERPDVDQREAPLNNFSVAQC	60
Colius_striatus	-----GEYIKTWRPRYFLLKNDGTFIGYKERPDVDQRESPLNNFSVAQC	45
	*****:*****	
Homo_sapiens	QLMKTERPRPNTFIIIRCLQWTTVIERTFHVETPEEREETTAIQTVADGLKKQEEEEEMDF	120
Colius_striatus	QLMKTERPKPNTFIIIRCLQWTTVIERTFHVETPEEREETKAIQTVADSLKKQEEEMMDF	105
	*****:*****.*****.*****	
Homo_sapiens	RSGPSDNSGAEEMEVS LAKPKHRVTMNEFEYLKLLGKGTFGKVILVKEKATGRYYAMKI	180
Colius_striatus	RSGPSDNSGAEEMVSMTPKPKHKVTMNEFEYLKLLGKGTFGKVILVKEKATGRYYAMKI	165
	*****:****:*****	
Homo_sapiens	LKKEVIVAKDEVAHTLTENRVLQNSRHPFLTALKYSFQTHDRLCFVMEYANGGELFFHLS	240
Colius_striatus	LKKEVIVAKDEVAHTLTENRVLQNSRHPFLTALKYSFQTHDRLCFVMEYANGGELFFHLS	225

Homo_sapiens	RERVFSEDRARFYGAEIVSALDYLHSEKNVYRD LKLENLMLDKDGHKIKITDFGLCKEGI	300
Colius_striatus	RERVFSEDRARFYGAEIVSALDYLHSEKNVYRD LKLENLMLDKDGHKIKITDFGLCKEGI	285

Homo_sapiens	KDGATMKTFCGTPEYLAPEVLEDNDYGRAVDWGLGVVYEMMCGRLPFYNDHEKLFEL	360
Colius_striatus	KDGATMKTFCGTPEYLAPEV-----	305

Homo_sapiens	ILMEEIRFPRTLGPPEAKSLLSGLLKKDPKQRLGGGSEDAKEIMQHRFFAGIVWQHVYEKK	420
Colius_striatus	-----	305
Homo_sapiens	LSPPFPKQVTSETDTRYFDEEFTAQMITITPPDQDDSMCEVDSERRPHFPQFSYSASGTA	480
Colius_striatus	-----	305

Percent identity where partial sequences overlap: 97.38%

GSK3a → no mousebird sequence available

GSK3b (S9 highlighted)

Human sequence: GenBank: CAG38748.1

Mousebird Sequence: NCBI Reference Sequence: XP_010198261.1

CLUSTAL O(1.2.4) multiple sequence alignment

```
Homo_sapiens      MSGRPRRTTSFAESCKPVQQPSAFGSMKVSRDKDGSKVTTVVATPGQGPDRPQEVSYTDTK      60
Colius_striatus  -----
Homo_sapiens      VINGSGFVVYQAKLCDSGELVAIKKVLQDKRFKNRELQIMRKLDHCNIVRLRYFFYSSG      120
Colius_striatus  -----flipltf----vnalivldvsnlllilfffsssl
                      .*      *      :: :  ** .*: : : ** **
Homo_sapiens      EKKDEVYLNLDYVPETVYRVARHYSRAKQTLPVIYVKLYMYQLFRSLAYIHSFGICHR      180
Colius_striatus  fqkdevylnlvldyvpetvyrvarhysrakqtlpmiyvklymyqlfrslayihsfgichr      90
                      :*****:*****:*****:*****:*****:*****:*****
Homo_sapiens      DIKPNLLLDPDTAVLKLCDFGSAKQLVRGEPNVSYICSRYRAPELIFGATDYTSSIDV      240
Colius_striatus  dikpnllldpdtavklcdfgsakqlvrgepnvsyicsryrapelifgatdytssidv      150
                      *****:*****:*****:*****:*****:*****:*****
Homo_sapiens      WSAGCVLAELLLGQPIFPGDSGVDQLVEIIKVLGTPTREQIREMNPNYTEFKFPQIKAHP      300
Colius_striatus  wsagcvlaelllgqpifpgdsgvdqlveiikvlgtptrequiremnpnytefkfpqikahp      210
                      *****:*****:*****:*****:*****:*****:*****
Homo_sapiens      WTK-----VFRPRPPEAIALCSRLLEYTPTARLTPLEACAHSFFDELRDPN      347
Colius_striatus  wtkdssgtghftsgvrvfrprtppeaialcsrlleyptparltpleacahsffdelrdpn      270
                      ***                *****:*****:*****:*****:*****:*****
Homo_sapiens      VKLPNGRDTPALFNFTTQELSSNPPLATILIPHARIQAAASTPTNATAASDANTGDRGQ      407
Colius_striatus  vklpngrekpalfnfttqelssnplasilipaharnqaastptnataasdvnagervq      330
                      *****:*****:***** **:* ** * *****:*****:***** *
Homo_sapiens      TNNAASASASNST      420
Colius_striatus  tnsvatasasnst      343
                      ** .*:*****
```

Percent identity where partial sequences overlap: 88.79%

PTEN (S380 Highlighted)

Human Sequence: GenBank: AAD13528.1

Mousebird Sequence: NCBI Reference Sequence: XP_010208730.1

CLUSTAL O(1.2.4) multiple sequence alignment

Homo_sapiens	MTAIIKEIVSRNKRRYQEDGFDDLTYIYPNIIAMGFPAERLEGVYRNNIDDVVRFLDSK	60
Colius_striatus	-----	0
Homo_sapiens	HKNHYKIYNLCAERHYDTAKFNCRVAQYPFEDHNPQLELIKPFCELDLQWLSEDDNHVA	120
Colius_striatus	-----CAERHYDTAKFNCRVAQYPFEDHNPQLELIKPFCELDLQWLSEDDNHVA *****	50
Homo_sapiens	AIHCKAGKGRTGVMICAYLLHRGKFLKAQEALDFYGEVTRDRKKGVTIPSQRRYVYYYSY	180
Colius_striatus	AIHCKAGKGRTGVMICAYLLHRGKFLKAQEALDFYGEVTRDRKKGVTIPSQRRYVYYYSY *****	110
Homo_sapiens	LLKNHLDYRPVALLFHKMMFETIPMFSSGTCNPQFVVCQLKVKIYSSNSGPTREDKFMY	240
Colius_striatus	LLKNHLDYRPVALLFHKMMFETIPMFSSGTCNPQFVVCQLKVKIYSSNSGPTREDKFMY ***** . ***** : * * * : * * * : * * *	170
Homo_sapiens	FEFPQPLPVCVDIKVEFFHKQNKMLKKDKMFHFVWNTFFIPGPEETSEKVENGS-LCDQE	299
Colius_striatus	FEFPQPLPVCVDIKVEFFHKQNKMLKKDKMFHFVWNTFFIIGL-DENSDKVENGSVLADQE ***** : * * : * * * * * : . * * *	229
Homo_sapiens	IDSICSIERADNDKEYLVLTLTKNDLDKANKDKANRYFSPNFKVKLYFTKTVEEPSNPEA	359
Colius_striatus	LDGIFSTERSDNDKEYLILTLTKNDLDKANKDKANRYFSPNFKVKLYFTKTVEEPSNPEA : * . * * * : * * * * * : * * * * * : * * * * * : * * * * * * * * * * * * *	289
Homo_sapiens	SSSTSVTPDVSNDNEPDHRYSDTTDSDPENEPFDEDQHTQITKV 403	
Colius_striatus	SSSTSVTPDVSNDNEPDHRYSDTTDSDPENEPFDEDQHTQITKV 333 *****	

Percent identity where partial sequence overlaps: 93.67%

RPS6 (S235/236)

Human Sequence: NCBI Reference Sequence: NP_001001.2

Mousebird Sequence: NCBI Reference Sequence: XP_010207307.1

CLUSTAL O(1.2.4) multiple sequence alignment

```
Homo_sapiens      mklnisfpatgcqklievdderklrtfyekrmatevaadalgeewkgyvvrissgndkqg      60
Colius_striatus  -----
Homo_sapiens      fpmkqgvltthgrvrlllskghscyrprtgerkrksvrgcivdanlsvlnlvivkkgek      120
Colius_striatus  -----ekd
                                     ***
Homo_sapiens      ipgltdttvprrlgpkrasrirklfnlskeddvrqyvvrkplnkegkprtkaqiqlv      180
Colius_striatus  ipgltdttvprrlgpkrasrirklfnlskeddvrqyvvrkplnkegkprtkaqiqlv      63
                                     *****
Homo_sapiens      tprvlqhkrrrialkkqrtkknkeeaeyakllakrmkeakekrqeqiakrrlsslras      240
Colius_striatus  tprvlqhkrrrialkkqrtqknkeeaeyakllakrmkeakekrqeqiakrrlsslras      123
                                     *****;*****
Homo_sapiens      tsksessqk      249
Colius_striatus  tsksessqk      132
                                     *****
```

Percent identity where partial sequence overlaps: 99.24%

TSC2 (S939 highlighted)

Human Sequence: GenBank: AAI50301.1

Mousebird Sequence: NCBI Reference Sequence: XP_010205705.1

CLUSTAL O(1.2.4) multiple sequence alignment

Homo_sapiens	makptskdsglkekfkilglgtprpnprsaegkqtefiitaeilrelsmecglnnrirm	60
Colius_striatus	makpqskdsglkekfrnllglgtsrgsskssegkqtefiitaeilkelsiecglsnrira	60
	**** *:*****:***** * . :*:*****:*****:*****:*****	
Homo_sapiens	igqicevaktkkfeehavealwkavadllqperplearhavlallkaivqgqgerlgvlr	120
Colius_striatus	isqicevaktkkieehaveaiwkvvadmlqperpvearhavlhlhksivqgqgerlgilr	120
	*.*****:*****:*.***:*****:***** ***:*****:***	
Homo_sapiens	alffkvikdypsnedlherlevfkaldngrhityleeladfvlgwmvdlssellvl	180
Colius_striatus	ahffkvirdypsnedlherlevfkaldengryityleeladfvlgwmvdlssellvl	180
	* *****:*****:*****:*****:*****:*****:*****	
Homo_sapiens	vnlvknscyldeyiarvmqmicllcvtvssvdielqvlavvcynclpaeslplfi	240
Colius_striatus	vnlvknscyledyvadmvhkiellcigtssfvdieislqvlavvcynclpsenlpvfi	240
	*****:***: * ** : *****: * * *****:*****:*.**:**	
Homo_sapiens	vtlcrtnvkelcepcwklmnrllgthlghsaiynmchlmedraymedapllrgavffvg	300
Colius_striatus	itlcrtnvkelcepcwklmnrllgthlghsaiynmcrimedraymadaallrgavffvg	300
	:*****:*****:*****:*****:*****:***** ** *****	
Homo_sapiens	malwgahrlyslrnsptsvlpsfyqamacpnevsvyeivlsitrlikkyrkelqvawdi	360
Colius_striatus	malwgahrlnslknsptsvlpsflkamtcpnavsvyeivlsitrlikkygkelqavtwdi	360
	***** ***:***** :*:*** ***** ***** *.*:**	
Homo_sapiens	llniierllqqlqtdspelrtivhdllttveelcdqnefhgseqeryfelvercadqrpe	420
Colius_striatus	lldimerllqqlqslslesqelsivhdllttveelcdqnefhgseerffelfercadqrpe	420
	:*:***:*** ** :*:*****:*****:*****:*****:*****	
Homo_sapiens	ssllnlisyraqsihpakdgwignlqalmerffrseesrgavrikvldvlsfvllinrqfy	480
Colius_striatus	ssvlnlityraqsihpakdgwihnlqllmerffrnenrsavrikvldvlsfvlsinrqfy	480
	:*:***:*****:*** *****.*.*.***** *****	
Homo_sapiens	eeelinsvvisqlshapedkdhqvrklatqllvdlaegchthhfnslldiiekvmarsls	540
Colius_striatus	eeelinlvvisqlahipedkdhqvrklatqllvdlaegcnthhfnslldiiekvaahsls	540
	***** *****:*****:*****:*****:***** ***** *	
Homo_sapiens	pppeleerdvaaysasledvktavlgllvilqtklytlpashatrvyemlvshiqhlykh	600
Colius_striatus	spseleerdllsysasledvktavlgllilqtklyslpsshamqvyemlihhvqrhymy	600
	* ***** :*****:*****:*****:*** ** :*****: ** * * :	
Homo_sapiens	sytlpiassirlqafdfllllradslhrlglpnkdgvrfspsycvcdymeper-gsekkt	659
Colius_striatus	ayslavassirlqvfdfl--radslhrlglslkdgavrfspsyclcdfveaekrtsekkp	657
	:*:* :*****.*** ***** ***** *****:***:* * : *****	
Homo_sapiens	sgplsptgppgpapagpavrlgsvpysllfrvllqclqesdwevklvlgrlpselry	719
Colius_striatus	tgtslpspspsvpaqntairvsnlpsymvfgvllqclqetdskvlklvlnklpselry	717
	:* *****: * . * . * . * . * . * . * . * . * . * . * . * . * . * . * .	
Homo_sapiens	kvliftspcsvdqlcsalcsmlsgpktlerlrgapegfsrtdlhlavvpvtalisyhny	779
Colius_striatus	kvflftspsnidllasalsymldkkttdrlhgtpegfsrtdlhlavvpvtalisyhny	777
	::*. * .***. **:. * * :**:*:*****:*****:*****	
Homo_sapiens	ldkktqremvycleqglihrcasqcvvalsicsvempdiiikalpvlvklthisatasm	839
Colius_striatus	ldkakqreivyclehgliyrcanqcvvalsicsvempdiiikalpvlivklthisatanm	837
	::*****:***:***. *****:*****:*****:*****.*	
Homo_sapiens	avplleflstlarlphlyrnfaaeqyasvfaislpytnpskfnqyivclahhviafwfir	899
Colius_striatus	aipplleflstlarlphlyrnfaaeqyasvfaislpytnpskfnqyivclahhviafwfir	897
	*:*****:*****:*****:*****:*****:*****:*****:*****	

Homo_sapiens	crlpfrkdfvpfitkglrsnvllsfdtdpekdsfrarstslnerpkslriarppkqglnn	959
Colius_striatus	crlpfrkdfvpyitkglrsnvllsfdtdpekdsfrarstslnerpkr----- *****:*****	944
Homo_sapiens	sppvkefkessaaefrcrsisvsehvvrsriqtsltsaslgadensvaqaddsmknlh	1019
Colius_striatus	-----	944
Homo_sapiens	leltetclmmaryvfnftavpkrspvgefllaggrtktlvgnklvtvttsvgtgrs	1079
Colius_striatus	-----	944
Homo_sapiens	llgldsgelqsgpessspgvhvrqtkeapaklesqagqqvsrgardrvrsmggghlrv	1139
Colius_striatus	-----	944
Homo_sapiens	galdvpasqflgsatspgprtapaakpekasagtrvpvqektnlaayvplltqgwaeilv	1199
Colius_striatus	-----	944
Homo_sapiens	rrptgntswlmslenplspfssdinmplqelsnalmaaerfkehrdtalyklsvpaas	1259
Colius_striatus	-----	944
Homo_sapiens	takppplprsnrtdsavmeegspgevpvlveppgledveaalgmrdrrdaysrsvsssq	1319
Colius_striatus	-----	944
Homo_sapiens	eekslhaeelvgrgipiervvsseggrpsvdlsfqpsqplsksssspelqtlqdilgdpq	1379
Colius_striatus	-----	944
Homo_sapiens	dkadvgrlspevkarsqsgtldgesaawsasgedsrgqpegplpsssprspglrprgyt	1439
Colius_striatus	-----	944
Homo_sapiens	idsapsrrrgkrverdalksratasnaekvpginpsfvflqlyhsppfgdesnkpillpn	1499
Colius_striatus	-----	944
Homo_sapiens	esqsfersvqlldqipsydhkiavlyvgegqnselailsnehgsyrytefltglgrli	1559
Colius_striatus	-----	944
Homo_sapiens	elkdcqpdkvylggldvcgedgqftycwhddimqavfhiatlmptkdvdkhrdckkrhlq	1619
Colius_striatus	-----	944
Homo_sapiens	ndfvsivyndsgedfklgtikgqfnfvhvmvtpldyecnlvslqcrkdmeglvdtsvaki	1679
Colius_striatus	-----	944
Homo_sapiens	vsdrlpvarqmalhanmasqvhhsrsnptdiypskwiarlrhikrlrqriceeaaysn	1739
Colius_striatus	-----	944
Homo_sapiens	pslplvhppshskapaqtpaeptpgyevgqrkrlissvedftefv 1784	
Colius_striatus	----- 944	

Percent identity where partial sequence overlaps: 83.56%

P70S6K (T412 highlighted)

Human Sequence: NCBI Reference Sequence: NP_003152.1

Mousebird Sequence: GenBank: KFP26724.1

CLUSTAL O(1.2.4) multiple sequence alignment

Homo_sapiens	mrrrrrrdgyfypapdfrdreaedmagvfdidldqpedagsedeleeggqlnesmdhggvg	60
Colius_striatus	-----gqlsesmdhggvg	13
	*** .*****	
Homo_sapiens	pyelgmehcekfeisetsvnrqpekirpecfellrvlgkgygkvfvrkvtgantgkif	120
Colius_striatus	qydlgmehcekfeisetsvnrqpekirpecfellrvlgkgygkvfvrkvtgantgkif	73
	*:*****	
Homo_sapiens	amkvlkkamivrnakdtahtkaernileevkhpfiydliyaftgqgklylileylsggel	180
Colius_striatus	amkvlkkamivrnakdtahtkaernileevkhpfiydliyaftgqgklylileylsggel	133

Homo_sapiens	fmqleregifmedtacfy laeisma lghlhqgiiyrdlkpenimlnhgghvkltdfglc	240
Colius_striatus	fmqleregifmedtacfy laeisma lghlhqgiiyrdlkpenimlnhgghvkltdfglc	193

Homo_sapiens	kesihdgtvthtfcgtieymapeilmrsgnrvdwwslgalmydmltgappftgenrkk	300
Colius_striatus	kesihdgtvthtfcgtieymapeilmrsgnrvdwwslgalmydmltgappftgenrkk	253

Homo_sapiens	tidkilkcklnlppyltqeardllkllkrnaasrlgagpgdagevqahpfrhinweel	360
Colius_striatus	tidkilkcklnlppyltqeardllkllkrnaasrlgagpgdagevqahpfrhinw del	313
	*****:	
Homo_sapiens	larkveppfkpllqseedvsqf dskftrqtpvdspdstl sesanqvflgft yvapsvle	420
Colius_striatus	larkveppfkpllqseedvsqf dskftrqtpvdspdstl sesanqvflgft yvapsvle	373

Homo_sapiens	svkekfsfepkirsprffigsprtpvsvpkf spgdfwrgasastanpqt pveypmetsg	480
Colius_striatus	svkekfsfepkirsprffigsprtpvsvpkf spgef wrgasasantqtpveypmetsg	433
	*****:*****:*	
Homo_sapiens	ieqmdvtmsgeasaplpirqpnsgpykkqafpmiskrpehlrmnl 525	
Colius_striatus	ieqmdvtvcgeasaplpirqpnsgpykkqafpmiskrpehlrmnl 478	
	*****:*****	

Percent identity where partial sequence overlaps: 97.91%

IRS1 (S312 highlighted)

Human Sequence: NCBI Reference Sequence: NP_005535.1

Mousebird Sequence: NCBI Reference Sequence: XP_010200481.1

CLUSTAL O(1.2.4) multiple sequence alignment

Homo_sapiens	masppe--sdgfsdvrkvgylrkpksmhkrffvltraaseagpparleyyenekkrwhkss	58
Colius_striatus	masptdssegffsdvrkvgylrkpksmhkrffvltraase-sgparleyyenekkrwhksg	59
	**** : .. ***** .***** .***** .***** .***** .***** .*****	
Homo_sapiens	apkrsiplscfninkradsknhlvalytrdehfaiaadseaeqdswyqallqlhnrak	118
Colius_striatus	apkrsiplencfninkradsknhlvalytkdehfaiaadsepeqeswyqallqlhnrak	119
	***** .***** .***** .***** .***** .***** .***** .*****	
Homo_sapiens	ghhdgaaalgagggggs-csgssglgeagedlsygdvppgpafkevqvilkpklgqtk	177
Colius_striatus	ghhhlhhhhhhhsdvtfggssglgeaged-sygevappgfafkevqvilkpklgqtk	178
	. . . : ..** **:* *****	
Homo_sapiens	nligiyrlcltsktisfvklnsaaavvlqlmnirrcghsenffievgrsavtgpgef	237
Colius_striatus	nligiyrlcltnktisfvklnsdaavvlqlnirrcghsenffievgrsavtgpgef	238
	***** .***** .***** .***** .***** .***** .***** .*****	
Homo_sapiens	mqvddsavaqnmhetileamramsdefrprksqsssnscnpsvplr-rhhlhnpppsq	296
Colius_striatus	mqvddsavaqnmhetileamramseefrprksqsssnscnpsvplrsrhhsnpppsq	298
	***** .***** .***** .***** .***** .***** .***** .*****	
Homo_sapiens	vgltrsrtesitaspasmv---ggkpgsfrvrassdgetmsrpsavdgsppvpsnt	352
Colius_striatus	vgltrsrtesvtaspagggggtsqkpsfrvrassdgetmsrpsavdgsppvpsan	358
	:**:***** .** *****:*	
Homo_sapiens	rthahrhrgsarlhpplnhsrsipmpasrcpsatspvsllsstsghgstdclfrs	412
Colius_striatus	rthshrhrnsrlhpplnhsrsipmpssrcpsatspvsllsstsghgstdclfrs	418
	:** .***** .***** .***** .***** .***** .***** .*****	
Homo_sapiens	sasvsgpsdggfissdeygsspcdfrrsfrsvtpdslghtppargeeelsnyicm	472
Colius_striatus	sasvsgpsdggfissdeygsspcdfrrsfrsvtpdslghtppargeeel-nyicm	477
	***** .***** .***** .***** .***** .***** .***** .*****	
Homo_sapiens	ps---tltapnghyilrsgnghrctpgtglgtsp--alagdeasaadldnrfrkrths	527
Colius_striatus	tssccslaapnghfiprac-----hpqqpprypstlccprggseevadlekafrkrths	531
	* :*:*****:* * . . : ..***: *****	
Homo_sapiens	agtsptithqktpsqssvasieeytemmpayppggsggrlpghrhsafvptrsypeegl	587
Colius_striatus	agtsptishqktpsqssvasieeytemlpsycgg---srlpsyrhsafvpthsypeecl	588
	*****:***** .***** .***** .***** .***** .***** .***** .*****	
Homo_sapiens	emhplerrgghrpdstlhtddgymmpspgvapvpsgr--ksgdymmpspkvsapqg	645
Colius_striatus	emhhvds--ghhr-tnsaphtddgymmpspgvapvpsggppkgympmpkvsap--	643
	*** : : ***** .*: ***** .***** .***** .***** .*****	
Homo_sapiens	iinpirrhqrvdpngymmpspggcspdigggpssssssnavpsgtsyglkwtngvvg	705
Colius_striatus	-----	643
Homo_sapiens	hhshvlphkppvessggkllpctgymmpspvgsntsspsdcyygpedpghkpvlsyy	765
Colius_striatus	-----	643
Homo_sapiens	slprsfkhtqrgepegarhqlrlstssgrllyaataddssstssdsglgygcgarl	825
Colius_striatus	-----	643
Homo_sapiens	epsiphphqvlqphlprkvdtaaqtnsrlarptrlslgdpkastlprareqqqqqp11	885
Colius_striatus	-----	643
Homo_sapiens	hppepkspgeyvniefgsdqsgylsgpvafhsspsvrcpsqlqpapreetgteeymkmd	945

IR (Y1162/1163 highlighted, Note: the signal sequence is included in the human sequence so Y1162 is at position Y1189)

Human Sequence: GenBank: AAA59452.1

Mousebird Sequence: GenBank: KFP29069.1

CLUSTAL O(1.2.4) multiple sequence alignment

Homo_sapiens	mgtgrrrgaaaapllvavaalllgaaghlypgevcpgmdirnlnlrhelencsvieghl	60
Colius_striatus	-----vcrsmdirnlnlrlnmlenctvieghl ** .*****: ****:*****	27
Homo_sapiens	qillmfktrpedfrdlsfpklimitdylllfrvygleslkdldfpnlvtrgsrlffnyal	120
Colius_striatus	qillmfktrpedfrdlsfpklimitdylllfrvygleslkdldfpnlvtrgthlffnyal *****:*****:***** *****.*****:*****	87
Homo_sapiens	vifemvhlkelglynlmitrgsvrieknelcylatidwsrildsvednyivlnkddne	180
Colius_striatus	vifemvhlkeiglynlmitrgavrieknelcylstidwsrildsvednyivankddke *****:*****:*****:*****:***** *****:*	147
Homo_sapiens	ecgdicpgtakgktncpatvingqfvercwtshcqvkcptickshgctaeglcchsecl	240
Colius_striatus	ecgdvcpgtvkgsncpvtvingifiercwtshcqvkcptickshgctaeglcchsecl ****:****.***:*** ***** *:*****.***:*** ***:***:*** *****	207
Homo_sapiens	gnscqpdpdkvacrnfyldgrcvetcpypyhfdwrcvnfsfcqdlhkhcknsrrqg	300
Colius_striatus	gdctepndpekvacrnfyldgrcvetcpypyhfdwrcvnfsfcqdlhkhcknaresg *.:*.:** *****:*****:***** ***:*.****.*****:***:***:*. .*	267
Homo_sapiens	chqyvihnkcipecpsgytmssnllctpcclgpcpkvchllegektidsvtsaqelrgc	360
Colius_striatus	ch--vihnnecvhecpssgyimssnlhctpcagpcpkvcdy-gkektidsvtsaqelrgc ** *****:*. ***** ***** **** *****. *****	324
Homo_sapiens	tvingsliinirggnnlaaeleanlgieeisgylkirrsyalvslsffrklrlirgetl	420
Colius_striatus	tvingslvinirggnnlaaeleanlgieeisgylkirrsyalvslsffrklhlirgetl *****:*****:*****:*****:*****:*****:*****	384
Homo_sapiens	eignysfyaldnqnlrqlwdwskhnlitqgklffhynpkclclseihkmeevsgtkgrqe	480
Colius_striatus	eagnysfyaldnqnlrqlwdwskhnlitqgklffhynpkclclseihkmeevsgtkgrqe * *****:*****:*****:*****:*****:*****:*****	444
Homo_sapiens	rndialktngdqascenellkfsyirtsfdkillrwepywppdfrdllgfmlykeapyq	540
Colius_striatus	rndialktngdqascenellkfsyirtsfdkillrwepywppdfrdllgfmlykeapyq *****:*****:*****:*****:*****:*****:*****	503
Homo_sapiens	nvtefdgqdacgsnswtvvdidpplrnsdpksqnhpgwlmrglkwptqyavfvktlvtfs	600
Colius_striatus	nvtefdgqdacgsnswtvvdivpprnsdpksqnhpgwlmrglkwptqyavfvktlvtfs *****:*****:*** ***:**.* :****:*****:*****:*****	563
Homo_sapiens	derrygaksdiivqtdatnpsvpldpisvsnsssqiilkwkppdpngnithylvfwe	660
Colius_striatus	derrygakseiivqtdatnpsvpldpisvsnsssqiilkwkppsepngnithylvfwq *****:*****:*** *****:*****:*****:*****:*****:*****	623
Homo_sapiens	rqaedselfeldyclkglklpsrtwspffesedsqkhnqseyedsageccsckptdsqil	720
Colius_striatus	qqaedselfeldyclkglklpsrtwspffesedsqkhnqseyedsageccsckptdsqil :*****:*****:***** ***** ***:*** ** :*****:*****	683
Homo_sapiens	keleesfrktfedylhnlvfvprktsstgtaedprsrkrslgdvgnvtvavptvaaf	780
Colius_striatus	keleesfrktfedylhnlvfvprktsstgtaedprsrkrslgdvgnvtvavptvaaf *****:*****:*** ***** .*. *****.*.*.*.*:***:*	741
Homo_sapiens	pntsstsvptspeehrfekvvnkeslvigslrhftgyrielqacnqdtpeercsvaayv	840
Colius_striatus	pnsaaga-enteeqkpfekvskeslvigslrhftgyrielhacnhd-----qayv **.:*.:. . ***:***** .*****:*****:*****:***:*** **	793
Homo_sapiens	sartmpeakaddivgpvtheifennvhlmwqepkepnlivlyevsyrtygd-eelhlc	899
Colius_striatus	sartmpeakaddivgpvsheliekntvhlkwqepkepnlivlyevnygrlgeteeahyc *****:*****:***:***.*** *****:*****.* * *: * * *	853

IGF1R (Y1135/1136 highlighted, Note: the signal sequence is present in the human sequence so Y1135 corresponds to 1164 in this sequence)

Human Sequence: GenBank: AAI43722.1

Mousebird Sequence: NCBI Reference Sequence: XP_010202369.1

CLUSTAL O(1.2.4) multiple sequence alignment

Homo_sapiens	mksqsgsggsptsllwglflfslsaalslwptsgeicgpgidirndyqqlkrlenctviegylh	60
Colius_striatus	-----	0
Homo_sapiens	illiskaedyrsyrfpkltviteylllfrvagleslgdlfpnlvtvirgwklfyalyvif	120
Colius_striatus	-----	0
Homo_sapiens	emtnlkdiglynlrnrnitrqairieknadlcybstvdwslildavsnnyivgnkppkecgd	180
Colius_striatus	-----	0
Homo_sapiens	lcpgtmeekpmcekttinneyrcwttnrcqkmpstcgkractennechpeclgscs	240
Colius_striatus	-----mrgvcvpscgkractdnechpeclgsc : :*:*****:*****:	31
Homo_sapiens	apndntacvacrhyyyagvcvpacppntyrfegwrcvdrdfcanilsaessdsegfvihd	300
Colius_striatus	apdnntacvacrnyfyegvcmpcpntykfegwrcvtkefcskvpateseyerfvihn ****:*****:* * * * * :*****:***** :*:*: :*:*: * * * * :	91
Homo_sapiens	gcmqecpsgfgirngsqsmycipceggpcpkvceekktktdsvtsaqmlqgctifkgnl	360
Colius_striatus	decmaecpsgfgirngsqsmfcspeceggpcpkicedg-ktktdsvtsaqmlqgctilkgnl .*** *****:* *****:*: *****:*****:****	150
Homo_sapiens	linirrgnniaselenfmglievvtgyvkihrshalvslflknrlilgeeqlgnysf	420
Colius_striatus	linirrgnniaselenfmglievvtgyvkihrshalvslflknrlryilgeeqlgnysf *****:*****:*****:***** *****:*****	210
Homo_sapiens	yvldnqnlqqlwdwhrnlrtikagkmyfafnpklcvseiyrmeevtgkgrqskgdintr	480
Colius_striatus	yvldnhnlqqlwdwhrnlrtikagkmyfafnpklcvseiyrmeevsgtkgrqskgdinpr *****:*****:*:***** *****:*****:*****:***** *	270
Homo_sapiens	nngerascesdvlhftsttksnriiitwhyrppdyrdlisftvvykeapfknvteydg	540
Colius_striatus	nngerasceshilrfvsnnttknrkltweryrppdyrdlisftvvykeapfknvteydg *****:*****:*. * . * * * * * :*. *****:*****:*****	330
Homo_sapiens	qdacgsnswnmvdvdlppnkdvpgillhglkpwtqyavyvkavtltmvenhdirgakse	600
Colius_striatus	qdacgsnswnmvdvdlppnkennpgillqglkpwtqyaiyvkavtltmmenhhigakse *****:*****: *****:*****:*****:*. * :*****	390
Homo_sapiens	ilyirtnasvpsipldvlvsasnsqslivkwnppslpngnlsyyivrwqrqqdgylyrh	660
Colius_striatus	ivyirtnaavpsipldvlvsasnsqslivkwnppslpngnlsyyivrwqqqdsylyrh *:*****:*****:*****:*****:*****:*****:*****:*****	450
Homo_sapiens	nycskdkipirkyadgtidieevtenpktevsggekppccacpkteakqaekaeeyrk	720
Colius_striatus	nycskdkvipirkyadgtidieevtenpktevsggekppccacpkteakqaekaeeyrk *****:*****:***** * * * * * *****:*****:*****	510
Homo_sapiens	vfenflhnsifvprperkrdrvmqvanttmsrsrnttaady-nitdpeeleteypffe	779
Colius_striatus	vfenflhnsifvprprdrkrdrvfrinatlvtrnrnvtgtdhftnvsdseeseveypffe *****:*****:*****:*. * . * . * : * : * * * * .*****	570
Homo_sapiens	srvdnkertvisnlrpflyridihsnheaeklgcsasnfvfartmpaegaddipgpvt	839
Colius_striatus	tkvdgkervtvislqpftlyridihsnheadtlgcsasnfvfartmpsegadnigpvt :*. * .*****:*****:*****:*****:*****:*****:***** *	630
Homo_sapiens	weprensiflkwpepenpnlilmyeikygsqvedqrecvsvrgeyrkyggaklnrlnpg	899
Colius_striatus	weakeentvylkwlepanpnlilmyeikyghgeekrecvsvrgeyrykklggaklthlnpg * * : * * : * * * * * *****:*****:*****:*****:*****	690

Homo_sapiens	nytariqatslsgngswtdpvfffyvqak--ryenfihlialpvavllivggllvimlyvf	957
Colius_striatus	nysarvqatslagngswtepisfyvqpsanygnflhliivlpiaflliiggllimlyvf **:*	750
Homo_sapiens	hrkrnnsrlngvlyasvnpeyfsaadvyvpdewevarekitmsrelgggsfgmvyegva	1017
Colius_striatus	nkkrnssrlngvlyasvnpeyfsaadvyvpdewevprekitmcrelgggsfgmvyegia :*:	810
Homo_sapiens	kgvvkdepetrvaiktveaasmrerieflneasvmkefnchhvrrllgvvsqgqptlvi	1077
Colius_striatus	kgvvkdepetrvaiktveaasmrerieflneasvmkefnchhvrrllgvvsqgqptlvi *****:	870
Homo_sapiens	melmtrgdlksylrslrpemennpvlappskskmiqmageiadgmaylnankfvhrdlaa	1137
Colius_striatus	melmtrgdlksylrslrpdtenppgqaptlkkmiqmageiadgmaylnankfvhrdlaa *****:	930
Homo_sapiens	rncmvaedftvkigdfgmtrdiyetyrkggkglpvrwmspeslkdgvfttysdwsf	1197
Colius_striatus	rncmvaedftvkigdfgmtrdiyetyrkggkglpvrwmspeslkdgvfttthsdwsf *****:	990
Homo_sapiens	gvvlweiatlaeqpyqglsneqvlrfvmegglldkpdncpdmlfelmrncwqynpkmrps	1257
Colius_striatus	gvvlweiatlaeqpyqgmtneqvlrfvmegglldkpdncpdmlfelmrncwqynpkmrps *****:	1050
Homo_sapiens	fleiissikeemepgfrevsfyseenklpepeeldlepenmesvpldpsassslplpd	1317
Colius_striatus	fleiigsikdeldpafkevfffyseenkppdteeldletenmesipldps--tlqptd *****:	1107
Homo_sapiens	rshghkaengppgvvlrasfderqpyahmnggrkneralplpqsstc	1366
Colius_striatus	kshghkaeng--pgvvvlraafeerqpyahmnggrkneralplpqsstc *****:	1154

Percent identity where partial sequence overlaps: 84.27%

Homo_sapiens	vnigmidqsradasavslseskssqdssdstsemvlvmgnlpldefypavsmvalmrifr	960
Colius_striatus	vnigmidqsradasavslseskssqdssdstsemvlvmgnlpldefypavsmvalmrifr	946

Homo_sapiens	dqslshhhtmvvqaitfifksglglkcvqflpqvmptflnvirvcdgairreflfqqlgmlv	1020
Colius_striatus	dqslsqhhtmvvqaitfifksglglkcvqflpqvmptflnvirvcdgairreflfqqlgmlv	1006

Homo_sapiens	sfvkshirpymdeivtlmrefvwmntsiqstiillieqivvalggfeklylpqqliphmlr	1080
Colius_striatus	sfvrshirpymdeivtlmrdvwmntsiqstiillieqivvalggfeklylpqqliphmlr	1066
	:**:*****	
Homo_sapiens	vfmhdnspgrivsikllaaiqlfganlddyhlhllppivklfdapeaplsrkaaletvd	1140
Colius_striatus	vfmhdnsgsrsvskllnaiqlfganlddyhlhllppivklfdapdpvvarkaaletvd	1126
	***** .*:*** *****:.*:*****	
Homo_sapiens	rltesldftdyasriihpivrtldqspelrstmtdtllslvfqlgkkyqifipmvnkvlv	1200
Colius_striatus	rltesldftdyasriihpivrtldqspelrttamtdtllslvfqlgkkyqifipmvnkvlv	1186
	*****:*****:*****	
Homo_sapiens	rhrinhgrydvlicrivkgytladeeedplyqhrmlrsgggdalasgpvetgpmkklhv	1260
Colius_striatus	rhrinhgrydvlicrivkgytladeeedplyqhrmlrnsqgetlasgpvetgpmkklhv	1246
	***** .*:*****	
Homo_sapiens	stinlqkawgaarrvskddwlewlrrlsllellkdsspslrcswalaqaynparmardfna	1320
Colius_striatus	stinlqkawgaarrvskddwlewlrrlsllellkdsspslrcswalaqaynparmardfna	1306

Homo_sapiens	afvscwselnedqqdelirsielaltsgdiaevtqtllnlaefmehsdkgplprddngi	1380
Colius_striatus	afvscwselnedqqdelirsielaltsgdiaevtqtllnlaefmehsdkgplprddngi	1366

Homo_sapiens	vllgeraakcrayakalhykelefqkgptpailleslisinnklqqpeaaagvleyamkhf	1440
Colius_striatus	vllgeraakcrayakalhykelefqkgptpailleslisinnklqqpeaaagvleyamkhf	1426

Homo_sapiens	geleiqatwyeklhewedalvaydkkmdtnkddpelmlgrmrcllealgewgqlhqqccek	1500
Colius_striatus	geleiqatwyeklhewedalvaydkkmdtnkddpelmlgrmrcllealgewgqlhqqccek	1486

Homo_sapiens	wtlvndetqakmarmaaaaawglgqwsmeeytcmiprdthdgafyravlahqdlfsla	1560
Colius_striatus	wtvndetqakmarmaaaaawglgqwsmeeytcmiprdthdgafyravlahqdlfsla	1546
	** *****	
Homo_sapiens	qqcidkardlldaeltamagesysraygamvschmlseleeviyyklvperreiriirqiww	1620
Colius_striatus	qqcidkardlldaeltamagesysraygamvscqmlseleeviyyklvperreiriirqiww	1606
	*****:*****	
Homo_sapiens	erlqgcqrivedwqkilmvrslvvnphedmrtwlkyaslsgksgrlalahktlvlllgvd	1680
Colius_striatus	erlqgcqrivedwqkilmvrslvvnphedmrtwlkyaslsgksgrlalahktlvlllgvd	1666
	*****:*****:*****	
Homo_sapiens	psrqldhplptvhpqvtyaymknmwsarkidafqhmghfvqtmqqqaqhaiatedqqhk	1740
Colius_striatus	psrqldhplptvhpqvtyaymknmwsarkidafqhmghfvqtmqqqaqhaiatedqqhk	1726
	*****:*****:*****	
Homo_sapiens	qelhkmlmarcfklkgewqlnlqginestipkvlqyysaatehdrsnykawahawavmnfea	1800
Colius_striatus	qelhkmlmarcfklkgewqlnlqginestipkvlqyysaatehdnrykawahawavmnfea	1786
	*****:*****:*****	
Homo_sapiens	vlhykhqngardekkklrhasganitnattaattaatattastegsnseesaeastensp	1860
Colius_striatus	vlhykhqngardekkklrhasgasits-----antegsnseesaeastensp	1832
	*****:*****:*****	
Homo_sapiens	tpsplqkkvtedlsktllmytvpavqgffrsislsrgnllqdtlrvltlwfdyghwpdvn	1920
Colius_striatus	ipspvqkkvtedlsktllmytvpavqgffrsislsrgnllqdtlrvltlwfdyghwpdvn	1892
	:**	
Homo_sapiens	ealvegvkaiqidtqlvqipqliaridtprrplvgrlihqlltdigryhpqaliypltvass	1980

Colius_striatus	ealvegykaiqidtwlvqipqliaridtprrplvgrlihqlldigryhpqaliyptvas *****	1952
Homo_sapiens	kstttarhnaankilknmcehsntlvqqammvseelirvailwhemwhegleeasrlyfg	2040
Colius_striatus	kstttarhnaankilknmcehsntlvqqammvseelirvailwhemwhegleeasrlyfg *****	2012
Homo_sapiens	ernvkgmfevleplhammergpqtlketsfnqaygrdlmeaqewcrkymksgnvkdltqa	2100
Colius_striatus	ernvkgmfevleplhammergpqtlketsfnqaygrdlmeaqewcrkymksgnvkdltqa *****	2072
Homo_sapiens	wdlyyhvfriskqlpqltslelqyvspkllmcrdlelavpgtydpnqpiiriqsiapsl	2160
Colius_striatus	wdlyyhvfriskqlpqltslelqyvspkllmcrdlelavpgtydpnqpiiriqsiapsl *****	2132
Homo_sapiens	qvitskqrprkltlmgsghefvflkghedlrqdervmqlfglvntllandptsrknkl	2220
Colius_striatus	qvitskqrprkltlmgsghefvflkghedlrqdervmqlfglvntllandptsrknkl *****	2192
Homo_sapiens	siqryaviplstnsgligwvphcdtlhalirdyrekkillniehrimlrmapydhltl	2280
Colius_striatus	siqryaviplstnsgligwvphcdtlhalirdyrekkillniehrimlrmapydhltl *****	2252
Homo_sapiens	mqkvevfehavntagddlakllwlkspsevwdrrtnytrslavmsvgyilglgdrh	2340
Colius_striatus	mqkvevfehavntagddlakllwlkspsevwdrrtnytrslavmsvgyilglgdrh *****	2312
Homo_sapiens	psnlmldrslgkilhidfgdcfevamtrefkpekifrltrmltnamevtgldgnyritc	2400
Colius_striatus	psnlmldrslgkilhidfgdcfevamtrefkpekifrltrmltnamevtgldgnyritc *****	2372
Homo_sapiens	htvmevlrehkdsvmavleafvydpllnwrlmdtntkgnkrstrtrtdsysaggsveildg	2460
Colius_striatus	htvmevlrehkdsvmavleafvydpllnwrlmdtntkgnkrstrtrtdsysasqsvemlds ***** .***.***	2432
Homo_sapiens	velgepahkktgttvpesihsfigdglvkpealnkkaiqiinrvrdkltgrdfshddtld	2520
Colius_striatus	velgetahkktgttvpesihsfigdglvkpealnkkaiqiinrvrdkltgrdfshdetld ***** .***	2492
Homo_sapiens	vptqvellikqatshenlcqcyigwcpfw	2549
Colius_striatus	vptqvellikqatshenlcqcyigwcpfw *****	2521

Percent identity: 97.14%

eIF2a (S51 highlighted)

Human Sequence: NCBI Reference Sequence: NP_001305975.1 (short isoform #5 used as S51 refers to 51st residue in the truncated form)

Mousebird Sequence: NCBI Reference Sequence: XP_010195358.1

CLUSTAL O(1.2.4) multiple sequence alignment

Homo_sapiens	-----	0
Colius_striatus	rgseglymvngppsftestafgrdsognckavafskdgsolvawcngekvvnvntsaell	60
Homo_sapiens	-----	0
Colius_striatus	rsfdlpkavclqfspknnvlatwqayttakdgsagvplqlhdvktgkclksfiqkkmqn	120
Homo_sapiens	-----	0
Colius_striatus	wpcwaddeslcarnvnnevhhffennfstianklhlqkvndfvlspgaqtqvavypvg	180
Homo_sapiens	-----mfqevkadkvtmlwnkkatavlvastdvdktgasy	36
Colius_striatus	skgapsfvrllyqypnfsqpsalanksffkdkvtmlwnkkatavlvastevdktgasy .*****:*****	240
Homo_sapiens	ygeqtlhyiatngesavvqlpkngpiydvvnssstefcavygfmpakatifnlkcdpvf	96
Colius_striatus	ygeqtlhyiatngesavvqlpkngpiydvvnssstefcavygfmpakatifnlkcdpvf *****.*****.*****:*****	300
Homo_sapiens	dfgtgprnaaaysphghilvlagfgnlrgqmevwdvknkyliskpvasdstyfawcpdge	156
Colius_striatus	dfgtgprnaaaysphghilvlagfgnlrgqmevwdvknkyliskpvasdstyfawcpdge *****	360
Homo_sapiens	hiltatcaprlrvnngykiwhtgslhkydvpsnaelwqvswwpfdgdfpaktityqa	216
Colius_striatus	hivtatcaprlrvsnngykiwhtgslhkydvpsnaelwqvswwpfdgdfpaktityqa *:*****.*****:*.*** *:*****:* **:.***	420
Homo_sapiens	vpsevpneepkvatayrppalrnkpitnsklheeeppqnmkpqsg-ndkplsktalkingr	275
Colius_striatus	vpsevpneepkvatayrppalrnkpitnsklheeeppqnmkpqsg-ndkplsktalkingr ***:*. * * * *****:* *****:***** * .*****	480
Homo_sapiens	kheakkaakqearsdkspdlaptpapqstprntvsgsisgdpeidkiknlkklkaieq	335
Colius_striatus	kheakkaakqeadanqepppapqpsavpaptsgdpeidkiknlrklkaieq *****:*. * . : *****:*. * . : *****:*****:*****	540
Homo_sapiens	lkeqaatgkqleknqlekiqketallqeledelgi 371	
Colius_striatus	lkeqaaagkqleknqlekiqketallqelenelgl 576 *****:*****:*****:*****:*****	

Percent identity in overlapping areas: 84.10%

eIF4b (S422 highlighted)

Human Sequence: NCBI Reference Sequence: NP_001287750.1

Mousebird Sequence: NCBI Reference Sequence: XP_010205818.1

CLUSTAL O(1.2.4) multiple sequence alignment

```
Homo_sapiens      maasakkkknkgktisltfdlaedgggtgggstyvskpvswadetddlegdvsttwhsnnd 60
Colius_striatus  -----sttwhsnnd 9
                                     *****

Homo_sapiens      dvyrapidrsilptapraarepnidrsrlpkspptyaflnlpydvteesikeffrgln 120
Colius_striatus  dvyrapidrsilptapraarepnidrsrlpkspptyaflnlpydvteesikdffrgln 69
                                     *****:*****:*****:*****

Homo_sapiens      isavrlprepsnperlkgfgyaefedldsllsalslneeslgnrrirvdvadqaqdkrd 180
Colius_striatus  isavrlpreptnperlkgfgyaefedidslfqalslneeslgnrrirvdvadqaqdkrd 129
                                     *****:*****:***:*****

Homo_sapiens      drsfgrdrn--rdsdktdtdwarpa-tdsfddypprrgddsfgdkyrdrydsdrydgy 237
Colius_striatus  drcfgrdrdrfrdserfesdwarpaasesfdypprrgddgfgd----- 174
                                     **_****:  **:::***** :*****_***

Homo_sapiens      rdgyrdgprrdmdryggrdryddrgsrdydrgydsrigsgrrafgsgyrrdddyrggdr 297
Colius_striatus  ----- 174

Homo_sapiens      yedrydrddrswwsrrdysrddyrrddrgppqrpklnlkprstpkeddssastsqstra 357
Colius_striatus  ----- 174

Homo_sapiens      asifggakpvdaarereveerlqkeqeklqrqldeplerrprerhpswrseetqerer 417
Colius_striatus  ----- 174

Homo_sapiens      srtgsessqtgtsttssrkskdqarrresekslenetlnkeedchsptskppkpdqplk 477
Colius_striatus  ----- 174

Homo_sapiens      vmpappkenawvkrssnpparsqssdteqqspstgggkvapaqpseegpgrkdenkvdg 537
Colius_striatus  ----- 174

Homo_sapiens      mnapkgqtgnssrgpgdggnrhdhwkesdrkdgkdkdqsrsapepkpkenpaskfssask 597
Colius_striatus  ----- 174

Homo_sapiens      yaalsvdgedenegedyae 616
Colius_striatus  ----- 174
```

Percent identity in overlapping areas with partial sequence: 90.64%

eIF4G (S1109 highlighted)

Human Sequence: NCBI Reference Sequence: NP_937885.1

Mousebird Sequence: NCBI Reference Sequence: XP_010202007.1

CLUSTAL O(1.2.4) multiple sequence alignment

Homo_sapiens	mnqppqiapkrrerktirirdpnqggkditeeimsgartastptppqtggglepanganetp	60
Colius_striatus	-----	0
Homo_sapiens	qvavivrpddrsqgaiiadrpglpgpehspsesqpspsptpspsvlepgseplavlsl	120
Colius_striatus	-----	0
Homo_sapiens	ipgdtmttiqmsveestpisretgepyrlspeptplaepilevevtlskvpesefsssp	180
Colius_striatus	-----	0
Homo_sapiens	lqaptplashtveihepngmvpsedlepeveesspelappacpsespviaptaqpeell	240
Colius_striatus	-----	0
Homo_sapiens	ngapsppavdlspvsepeeakevtasmapptipsatpatapsatspaqeeemeeeeeee	300
Colius_striatus	-----	0
Homo_sapiens	egeageageaesekggeellppestpibanlsqnleaaaatqvavsvpkrrrkikelnkk	360
Colius_striatus	-----	0
Homo_sapiens	eavgdlldafkeanpavpevenqppagsnpgpesegsvpprpeeadetwdskedkihna	420
Colius_striatus	-----	0
Homo_sapiens	eniqpgeqkyeyksdqwkplnleekkydrefllgqfifasmqkpeglphisdvldka	480
Colius_striatus	-----	0
Homo_sapiens	nktplrldptrlqgincgpdfpsfanlgrttlstrgpprggggelprgpaglgprrs	540
Colius_striatus	-----	0
Homo_sapiens	qqgprkeprkiiatvltmediklnkaekawkpsskrtaadkdrgeedadgsktqdlfrrv	600
Colius_striatus	-----sqelfrrv :****	8
Homo_sapiens	rsilnkltppqmfqqlmkqvtqlaidteerlkgvidlifekaisepnfsvayanmcrclma	660
Colius_striatus	rsilnkltppqmlqqlmkqvmelsidteerlkgvidlvfekaisepnfsvayanmcrclmg *****:*****:*.*****:*****:*****.	68
Homo_sapiens	lkvpttekptvtvnfrklllnrcqkefekdkdddevfekqkemdeaataeerglkeel	720
Colius_striatus	lkvpttdkptvtvnfrklllnrcqkefekdkddeifekrqkemddasapeekarmkdel *****:*****:***:*****:*.:.**:.*:*:**	128
Homo_sapiens	eeardiarrslgnikfigelfklkmlteaimhdcvklknhdeesleclcrllttigk	780
Colius_striatus	eeardkarrslgnikfigelfklkmlteaimhdcvklknhdeesleclcrllttigk *****	188
Homo_sapiens	dldfekakprmdqyfnqmekiikekktssrirfmlqdvldlrgsnwvprrgdggpktidq	840
Colius_striatus	dldfekakprmdqyfnqmekiikekktssrirfmlqdvldlrgsnwvprrgdggpktidq *****:***.*****	248
Homo_sapiens	ihkeaemeehrehikvqqlmakgsdkrrggppppisrg-lplvddggwntvpiskgsrp	899
Colius_striatus	ihkeaemeehrehikvqqlmskdk--rrgsgpssssgrgslvaddgwntvpiskgnrp *****:*. * * * * * * * .*****.	305
Homo_sapiens	idtsrltkitkpgsidsnqlfapggrlswgksgsggagakpsdaasearpatstlnrf	959

Colius_striatus	idtirltkpkgsidsnnqlfapggrlswgkgsdgsakpadsasdsgrpatstlnrf *** *****:***:*****	365
Homo_sapiens	salqqavptestdnrrrvqrsrlsregekagdrgrdrlerserggd-----rgdrldra	1013
Colius_striatus	salqqstpaesveslrvvqrsrdrsekagdrgeresrsekgsdrlerpdrgeradrn *****:***:***** *:* *****:*.***:*. * * * *	425
Homo_sapiens	rtpatkrsfskeveersrer--psqpeglrkaaslteddrdrdavrkaalppvspkka	1071
Colius_striatus	rsavtkrsfsketedrsrerekqggpeavrkaasmseerdrsresvkqepappa-aspkp *:* *****:***** *:* *****:*.***:*. * * * *	484
Homo_sapiens	alseeelekkskaiieeylhndmkeavqcvqelaspsllfifvrhgvestlersaiare	1131
Colius_striatus	mlseelekkskaiieeylhndmkealqcvqelgspsslyifvqngiestlerstisre *****:*****:*****.*** *:* *****:*.***	544
Homo_sapiens	hmqgllhqllcaghlstaqyyqglyeilelaedmeidiphwlylaelvtpilqeggvpm	1191
Colius_striatus	hmgvllcqlvkagtlskegyyglreileiaedmeidiphwlylaelitpilqeegipm *** * * *: *	604
Homo_sapiens	gelfreitkplrplgkaasllleilgllcksmgpkvgtlwreaglswekflpegqdiga	1251
Colius_striatus	aelfreitkplvpigkaptllvevlglckgmsqktagklwrddgglswkflpedqdvnk .***** *:* *	664
Homo_sapiens	fvaeqkveytlgeeseappqralpseelnrqlkllkegssnqrsvdwieanlseqqivs	1311
Colius_striatus	fvteqkleytmgdpr---srkeltseelckqmdkllkenpnnqrihdwieanlseqqvss **:* *	721
Homo_sapiens	ntlvraltavcysaiifetplrvdvavlkarakllqkylcdeqkelqalyalqalvvtl	1371
Colius_striatus	ntfiralmtsvchsaivcexwgrgrg----- **:* *	747
Homo_sapiens	eqppnllrmfddalydedvkedafyswesskdpaeggkvalksvtaffkwlaeae	1431
Colius_striatus	----- -----	747
Homo_sapiens	sdhn 1435	
Colius_striatus	---- 747	

Percent in areas overlapping with partial sequence: 77.91%

eIF4E (S209 Highlighted)

Human Sequence: NCBI Reference Sequence: NP_001959.1

Mousebird Sequence: GenBank: KFP29199.1

CLUSTAL O(1.2.4) multiple sequence alignment

```
Homo_sapiens      matvepettptpnpptteektesnqevanpehyikhplqnrwalwffkndksktwqanl      60
Colius_striatus  -----ettpnqpseeeektepapsqevaspeqyikhplqnrwalwffkndksktwqanl      54
                  ****.*:*  *: :  .****.**:*****:*****:*****:*****

Homo_sapiens      rliskfdtvedfwalynhiqlssnlmpgcdyslfdgiepmwedeknkrgrwlitlnkq      120
Colius_striatus  rliskfdtvedfwalynhiqlssnlmpgcdyslfdgiepmwedeknkrgrwlitlnkq      114
                  *****:*****:*****:*****:*****:*****:*****:*****

Homo_sapiens      qrrsldrfwletllcligesfddysddvcgavvnvrakgdkiaiwttecenreavthig      180
Colius_striatus  qrrsldrfwletllcligesfddysddvcgavvnvrtkgdkiaiwttecenrdavthig      174
                  *****:*****:*****:*****:*****:*****:*****:*****

Homo_sapiens      rvykerlglppkivigyqshadtatksgsttknrfvv      217
Colius_striatus  rvykerlglppkivigyqshadtatksgsttknrfvv      211
                  *****:*****:*****:*****:*****:*****:*****:*****
```

Percent identity in overlapping areas with partial sequence: 92.42%

4E-BP1 (T37/46 Highlighted)

Human Sequence: NCBI Reference Sequence: NP_004086.1

Mousebird Sequence: GenBank: KFP25068.1

CLUSTAL O(1.2.4) multiple sequence alignment

```
Homo_sapiens      msggsscsqtpsraipatrrrvlgdgvqlppgdystpgpggtlfstgpggtriiydrkflm      60
Colius_striatus  -----gtriiydrkflm      12
                                     *****

Homo_sapiens      ecrnspvktpprdlptipgvtspsddeppmeasqshlrnspeckraggeesqfemdi      118
Colius_striatus  ecrnspvaktppsdldipgvtsptveelkae--nnhvqnc-dekasageeeqfmdmi      67
*****:**** * * *****: :*  *  :. *: *. :*: :.***.**:****
```

Percent identity in overlapping regions: 68.66%