

S2 Fig. Multiple sequence alignment of EYS protein in different species

Human	(1)	--MTDKSIVIIISLMVFHSSFTIN-GKTCRRQLVEEWHQPSSYVNVNWTLTENICLDYRDC
Macaque	(1)	--MTDKSIIIIISLMVFHSSFTIN-GKTCRRELVEEWHQPSSHVNVNWTLTENICLDYRDC
Chicken	(1)	--MTPKSTVHMVVCFLQLCIVKGGIICERQITAEWRVEPKHVLTEWTLRKNICTDFYSEC
Zebrafish	(1)	MRNPKLAIIVFLLSCVIYGPVYSQVTCRRATSRWHTOPKNI SVRWTLMENTCSSLTQCW
Drosophila	(1)	-----
		Signal peptide
Human	(58)	WFLGVN-TKIDTSGNQAVPQICPLQLQLGDTLVISSEPSLQFPEINLMNVSETSEVIGCVQ
Macaque	(58)	WFLGVN-TKIDTSGNQVVPQICPLQLQLGDTLVISSEPSLQFPEINLMNVSETSEVIGCVQ
Chicken	(59)	WNVNKN-ATREDKN-LSVPQICPVQLQLGDTLFISSSEPSFQSYGMNLVNVSKKEEFINCPK
Zebrafish	(61)	SSFATENGHFWTIGPYHFPQLCPLEQLGDTLFFVSADGTLAQHGVLTKVSKKEEFDKCAI
Drosophila	(1)	-----
Human	(117)	NTTTEQQLLFGCRLKGMHTVNSKWL SVGTHYFITVMASGPSPCPIGLRLNVTVKQQFCQE
Macaque	(117)	NTTTEQQLLFGCRLKGMHTVNSKWL SVGTHYFITVMASGPSPCPIGLRLNVTVKQQFCQE
Chicken	(117)	IGFLQEQQIFVCOIRGLHQVDSTWLVGVGTHYFAEIHKRGPYLONMGLRLNVTVKQQFCQE
Zebrafish	(121)	LEPRKEQLVFASSINGTLQVESKWLMSGLNYFTIINRGSSHLCRFGLRIAVLVKPOLCQS
Drosophila	(1)	-----
Human	(177)	SLSSEFCSGHGKCLSEAWSKITYSCHCQPPFSGKYCQELDACSFKPCKNNGSCINKR-ENW
Macaque	(177)	SLSSEFCSGHGKCLSEAWSKITYSCHCQPPFSGKYCQELDACSFKPCKNDGSCINKR-GNW
Chicken	(177)	TPNAPLCSKHGRCLSRVWEKQYSCHCFSQYSGKFCQKFNVCSTKPCHNNASCTEK--LEG
Zebrafish	(181)	SPLLRLCSGKGECRITLTKDDSFTCRCHKHFSGRYCEENVDCGYEQPCLNGGTCISEGSAYT
Drosophila	(1)	-----
		EGF domain
		EGF domain
Human	(236)	DEQAYECVCHPPFTGKNCSEIIG-QCQPHVCFHGNCSNITSNSFICECDEQFSGPFCEVS
Macaque	(236)	DEQGYECVCHPPFTGKNCSEIIV-QCQPHVCFHGNCSNITSNSFICECDEQFSGPFCEVS
Chicken	(235)	IRNSYECTCPPEFSGKNCIEIVG-QCQPHVCFHGNCSNITSNSFICECDEQFSGPFCEVS
Zebrafish	(241)	DLPPYTCICPAPFTGVNCEIIGNQNC SKWCKEGACLKVSSTSRCECFTGYTGTVCERK
Drosophila	(1)	-----
		EGF domain
Human	(295)	AKPCVSLFWKRGICPNSSSAYTYECPKGSSSQNGETDVSEFSLVPCQNGTDCIKISNDV
Macaque	(295)	TKPCVSLLCWKRGCIPNSSSAYTYECPKGPSSQNGETDVSECSLILCENGTGDIKISNDV
Chicken	(294)	GDPCASQPCLNRGVQYNQSGYICDPCPAGFLGQDCEVDINECSSRPFQNRGTCLIDPNDV
Zebrafish	(301)	RLFCDNPCRNDGRCEE TANGYVCTCPGGFTGLNCETTAEADSYCKSSGCQLDEACATD
Drosophila	(1)	-----
		EGF domain
Human	(355)	MCICSPIFTDLLCKSIQTSCESEFPLRNNATCKKCEKDYPCSCISGFTTEKNCEKAIDHCKL
Macaque	(355)	MCICSPIFTDLLCKSFQTSCESEFPLKNNATFKKCEKDYHCSCMSGFTGKNCCEVIDHCKL
Chicken	(354)	SCSCLPFTGKFCERILNPCELLPCLNNATCVSEQQNYKCRCPGFTGKNCCEVIDYCKL
Zebrafish	(360)	KLNAICICVDPECLEQAEVCGITLPCLNNGGICVVPNGQYHRCRCRQGFSGKNCEEVIDFCKL
Drosophila	(1)	-----MSNV
		EGF-like domain
Human	(415)	LSINCLNEEWCFNIIGRFKYVCIIPGCTKNPCWFLKNVYLIHQHLCYCGVTFHGCQDKGP
Macaque	(415)	LSINCLNEEWCFNIIGRFKYVCIIPGCTKNPFWFLKNVHLIHLHPCYYGITFHGICQDKGP
Chicken	(414)	LSINCLNEGLCLNIIGGFTCLCAPGWTGEFCQVAENACLIYPKSCSNGSTCIDMSQLGEQ
Zebrafish	(420)	LNINCLNEGLCLNRVGGYNCLCAPGWTGEFCQYLENACLAYPNRCLNGATCISMSQTTAP
Drosophila	(5)	HQFDQTMAESPQIRRDGRLCATWPSKDS EDGAGTALRAATPLTANGATTTGLSVTLAP
		EGF-CA domain

Human (475) AQFEYVWQLGFAGS-----EGEKQCGVIDA
Macaque (475) AHFEYVWQLGFTGS-----EGEKQCGVIDA
Chicken (474) PLFQCLCPHGFTGEFCKVQIDNCNSNLCENGGTCVNYEDHFKCICPMGFEGERCELDIDV
Zebrafish (480) PHVMCTCLPGYTGPYCEAEVNECDSSPCQHGTCTDFVGYKCTCPSGYTGIDCEIDINS
Drosophila (65) KDMQRNHLKMPAT-----

Human (500) YFFLAANCTEDATYVNDPEDNNSCWFPHEGKTEICANGCSCLEEDSQEYRYLCFLRWA
Macaque (500) YFFLTANCTEDATYVNNPEDNNSCSFPCGKTEICANGCSCLEEDNQEYRYLCFLRWT
Chicken (534) CLFYNISCAPGAVCMNKSHGFNYTCLSPICGKTEVCANGGSCFYDEGNQRSHCVCAHGWT
Zebrafish (540) CWLPNATCPPEITCVDLPGDLFKHTPCPHYLQPCANGGHCVLHN-ITSYSCVAPGWT
Drosophila (80) -----IEKPTITATASS-----SSTS-----TSTRKSVTATRSIKLKN

Human (560) GNMYLENTTDDQENECQHEAVCKDEINRPRCSCSLSYIGRLCVVNVVDYCLGNHSISVHGL
Macaque (560) SNMYLENITDDQENKQHEAICEDEINRPRCSCSLSYIGRLCVVNVVDYCLGNQSI SVHGL
Chicken (594) GQTCLENINDCEINQCQHGATCEDEVNKYRCICPLGYTGTFCETIDNDCIGN-QCSEYGF
Zebrafish (599) GATCLVNIINECVQHRQNRATCVDEVGGYSCLCGHGYTGVCETDFCSGHQC---SEHAV
Drosophila (114) PNTLPTLRILARGLLLPAIILAILVG--SSQAGFACLSNPFVFGVICDGLN---SSYSC
EGF domain

Human (620) CLALSHNCNCSGLQRYERNICEIDTEDCKSASCNKG-----
Macaque (620) CLALSHNCNCSDLQRYEGNICEIDTEDCKSVSCNKG-----
Chicken (653) CQDHLHNYSCICMLGYGGPFCEVEINECSSSPCKNGGICMNLIGSFSCHCAEGFGETCT
Zebrafish (656) CVDQQHNYTCRCMLGYEGTICELETEDECKSAPCTNNATCIDLVAGYQCLCAPGFKGRTCS
Drosophila (169) YCIDG-----YTGIIQCQTNWDECWSSPCQNG-----

Human (656) -----
Macaque (656) -----
Chicken (713) AHVNECLDRPCWNGGTCEEEDINGFKCNCPLGFEGLNCEINFDECTYGFCKNNSTCLDLIA
Zebrafish (716) ESMNECWSRPCNNGGSCIDLVDNYICNCPGFTGHDCSMPATGCTSNPCNTKGTSMCEEQ
Drosophila (195) -----

Human (656) -----
Macaque (656) -----
Chicken (773) --DYSCVCPGFTDKNCSTDIDECAFKPCQNGGHCHNLIGEFYCSCLPGFTGQFCEADVA
Zebrafish (776) QDGFKCVCHHGYTGLFCETSINHCVEGLCHHGSECVDLTKGFMCECLPGLRGRLECVNID
Drosophila (195) -----

Human (656) -----
Macaque (656) -----
Chicken (831) ACLSQPCGASSICKDMSDGYVCFAPGFIGNCEIEVDECLSDPCHSGATCIDHLNGFSC
Zebrafish (836) DCLDKPCGALSICKDGINAYDCFCAPGVGNCEIEVNECLSQPCQNGASCSDLENSFSC
Drosophila (195) -----

Human (656) -----TSTHLRGYFFRKCVPGFKCTQCEIDIDECASHP
Macaque (656) -----TSTHLRGYFFYKCVPGFKGTRCEIDLDECALHP
Chicken (891) ICQGGFQGTTCETNINECHSSPCLHNAATCADFVGGYECICLPGFTGTRCETDIDECASSP
Zebrafish (896) LCLAGTTGSLCEINIDECQSSPCMNNGTCLDLSDFKICICPSGFSGPECSMDINECVSYF
Drosophila (195) -----GTCVDGVAYYNCTCPEGFSGSNCEENVDECMSNP

Human (690) CKNGATCIDQPGNYFCQCVPPFK-----
Macaque (690) CKSGATCIDQPGNYFCQCGPPFK-----
Chicken (951) CKNGATCIDQPGNYFCQCMAPFKGLNCFRPPCEASNPCENGAVCTEEMNLDAFPLGFQCG
Zebrafish (956) CKNGGSCIDQPGNYVCRCLAPFKGLNCELLPCEAVNPCDNGAECVEEADLVLPPLGFQCR
Drosophila (229) CQNGGLCRDR-----
EGF-CA domain

Human (713) -----VVDGFSCLCNPGYVGLRCEQDIDDCLLNACE
 Macaque (713) -----VVDGFSCLCNPGYVGLRCEQNIDNCLLNAFE
 Chicken (1011) CVKGFAGPRCEINVNECSSNPCLHGICYDINVGFYCLCNPGYAGLTCEQDIDDCLLNACE
 Zebrafish (1016) CRKGFAGPRCEINVNECSSNPCLHGICYDINVGFYCLCNPGYAGVLRCEQHINDCASNMCE
 Drosophila (239) -----TNGYICTCQPGYLGSHCELVDVAVCETGTGA

Human (744) ----HNSTCKDLHLSYQCVCVLSDWEGNFCEQESNECKMNPCKNNSTCTDLYKSYRCECTS
 Macaque (744) ----HNSTYKDLHLSYQCVCVLSGWEGNFCEQESNECKMNPCKNNSTCTDLYKSYRCECTS
 Chicken (1071) ----HNSTCVDLHLRYQCVCVLPGWEGTFCEYESNECDSEPCRNNGTCTDLFNSYRCLCTA
 Zebrafish (1076) ----HNSTCVDLHLSYNCLCLPGWEGEYCYQREINECLSNPCKNNATCTDLLNAYRCVCPQ
 Drosophila (269) RCQHGGECEIEGPELEHTCDCPAGWHRICQEEINECASSPCQNGGVQVDKLAAYACACPM

EGF-CA domain EGF-CA domain

Human (800) GWTGQNCSEIEINECDSDPCMNGGLCHESTIPGQFVCLCPPLYTGQFCHQRYNLCPLLHNP
 Macaque (800) GWTGQNCSEIEINECDSDPCMNGGLCHESTIPGQFVCLCPPLYTGQFCHQRYNLCPLLHNP
 Chicken (1127) GWTGPDCEIDINECDSEPCNGATGCTYVESVQKQGFVCTCPFFYTGDFCHQRFSPCLPYNP
 Zebrafish (1132) GWTGLDCDEEDVKECSSSPCLNGAHCVESDTPGEFSCTCPPFFTGPLCEQPYDPCLQPNP
 Drosophila (329) GYTGINCEEEILLICADNPQNNALCLMEEG--VPTCYQVDPYHGEKCEFOYDECOLG---

EGF domain

Human (860) CRNNSTCLALVDANQHCICREEFEGKNCIDVKECLFLSCQDYGDCEDMVNNFRCTCRPG
 Macaque (860) CRNNSTCLALVDGNQHCICREEFEGKHCIDVKECLFLSCQDYGDCEDMVNNFRCTCRPG
 Chicken (1187) CINNSTCLAQADGNPMCICKTGTGCTYCEVNSDECTSHPCQNEGLCVDGINSYSCFCEPG
 Zebrafish (1192) CLHNSTCRAQSDGTALCVCPVGFEGTRCEIDSDCVSRPCQNRGLCVDGVNSYSCFCEPG
 Drosophila (384) -----PRCMNG---GVCIDGVDTFSCSCPPL

EGF domain

EGF-domain

Human (920) FSGSLICEIEINECSSEPCCKNNGTCVDLTNRFFCNCEPEYHGFPCELDVNKCKISPCLDDEE
 Macaque (920) FSGSLICEIEINECSSEPCCKNNGTCVDLTNRFFCNCEPGYHGFPCELDVNKCKISPCLDDEE
 Chicken (1247) FTGTLCEVEINECLSRPCCKNNGTCVDLTNRFFCNCEAPGYHGFPCELDVNKCKISPCLDDEE
 Zebrafish (1252) FSGLHCEEIDINECASNPQNAVQCQDLVNGFQCSCVPGYFGPHCNLDVNECDSPCLHES
 Drosophila (407) LIGMLICECLMVGEESLDCNYTAPATQSPRRRTTTTSTMAPPTVRVTPPETTVSPSR---

EGF-CA domain

Human (980) NCVYRTDGYNCLCAPGYTGINCEINLDECLSEPCLDHGVCIDGINHYTCDCKSGFFGTHC
 Macaque (980) NCVYRTDRYNCLCAPGYTGINCEINLDECLSEPCLDHGVCIDGINHYTCDCKSGFFGTHC
 Chicken (1307) SCINRLGGYQCFCSPEFTGDRCEINTDECLSTPCLNNGSCIDDINSYKCHCRSGFHTGNC
 Zebrafish (1312) VCNLPPGGFACVCSAGFSGKWCELVNDECLSNPCRNNGSCIDGLNGYQCVCSRGMFDHC
 Drosophila (464) ---ASEVVEIIVTTSAPAEVVTSVLSPSSSSSSSEEGVSVIEIKTPTVAPPESCShSISV

EGF domain

EGF-CA domain

Human (1040) ETNANDCL-SNFCPLHGRCTELINEYPCSCDADGTSIQCKIKINDCTSIPCMNEGF----C
 Macaque (1040) ETNANDCL-SNFCPLHGRCTEPINEYPCSCDADGTSIQCKIKINDCTSMPCMNEGF----C
 Chicken (1367) ETNVNECW-PEPCLHGRCIDLDIGYQCSCEAGWTSRCEININECESVPCINGGS----C
 Zebrafish (1372) ERNTDECS-SGFCVHGSCLEIDAISQCEVGTGHRCQININECEAHPCLNGGS----C
 Drosophila (521) EQTTAVPAQPEPESEQEPESKHPPESESASESETTEEEIIPGTTARPTSRSSSSSEES

EGF-like domain

Human (1095) QKSAHGFTCICPRGYTGAYCEKSIDNCAEPELNSVLCNNGICVDGPGHTFDCRCLPGFS
 Macaque (1095) QKSAHGFTCICPRGYTGAYCEKSIDNCAEPELNSVLCNNGICVDGPGHTFDCRCLPGFS
 Chicken (1422) QDLVNEFACICLTGYTGKFCFDIDLICNEPTVSSVLCNNGVVDGPGRTFHCRCLAGFS
 Zebrafish (1427) VDLVDKYACICADGFTGKNCIDIDQVCLQTSLNFSLCFNGGTVDGPGVNFCTCSRPGFM
 Drosophila (581) PSIFFTLPPIPGKQTSASSESSGVTSEEYTVPHFEVSGSKSESSEEVTTVRPTA

EGF domain

EGF domain

Human (1155) GQFCEININECSSPCLHGADCEDHINGYVCKCQPGWSGHHCEK-ELECIPNSCVHELICM
 Macaque (1155) GQFCEININECSSPCLHGANCEDHINGYVCKCQPGWSGHHCEK-ELECVPNSCVHQLCM
 Chicken (1482) GQFCEIEVNECNSSPCLHGSTCEDHNGYTCQCKGWEGHLCELVDDECISNPCIHGICV
 Zebrafish (1487) GDFCEVEMNECCSEPCFNAGICQDLINGYQCHCRPGWTGLHCEDDINECLLQPCNQGMCI
 Drosophila (640) APSITLSDITSSGSSSSSSSESVVFTTTPAPVFVQRVTTIETSISIDYVTPPTPLPETTTP

EGF-CA domain

Human	(1214)	ENEP--GSTCLCTPGFMTCSIGLLCGDEIRRITCLTPIFQRTDPISTQTYTTPPSETLVS
Macaque	(1214)	ENEP--GSTCLCTPGFMTCSIGLLCGDEIRRITCLTPIFQRTDPISTQTHTVPPSETLVS
Chicken	(1542)	QSDPSFGYSCFCRPGFVGRSCELYNDCLIQSCSSGFLCVDGINNITCLPTISQS-----
Zebrafish	(1547)	QNEPGHGYTCFCRPGFVGENCEYNYDDCLIQSCPETFSCKDGINNVSCVPVKTDSSSLP-
Drosophila	(700)	RVVIVPRPTFAPEPLDVVETTASTHHLWTEVPTTAAPFFTEYPAEVLITTHRTSAG---

EGF-like domain

Human	(1272)	SFPSIKATRIPALMDTYPVDOGPKQTGIVKHDILPTTGLATLRISTPIESYLLQELIVTR
Macaque	(1272)	SFPSIKATRIPALMDTYPVDOGPKQTGIVKHDILPTTGLATLRISTPKSYLLEELIVTR
Chicken	(1597)	-----KKTEMAELFPTESLDN-----DLPSALAVSM
Zebrafish	(1606)	-----PISVVSWRSTDIIST
Drosophila	(757)	-----RFTTVQPPAGVTT

Human	(1332)	ELSAKHSLLSSADVSSSRFLNFGIRDPAQIVQDKTSVSHMPIRTSAATLGFFFPDRRART
Macaque	(1332)	ELSAKHSLLSSTDVSSSPFLNFGIHDPAQIVQDKTSVSHMRIRTSAATLGFFFPDRRART
Chicken	(1623)	ELWSKHAIP-----
Zebrafish	(1620)	ELQPTFAIPVEN-----
Drosophila	(770)	TSPTEDSSVELP-----

Human	(1392)	PFIMSSLMSDFIFPTQSLLFENCQTVALSATPTTSVIRSIPGADIELNRQSLLSRGFLLI
Macaque	(1392)	SFIRSSLMSDFIFPTQSLLFENYQTVASSATPTTSVIRSIPGADIELNRHSLLSRGFLLT
Chicken	(1632)	-----
Zebrafish	(1631)	-----
Drosophila	(782)	-----

Human	(1452)	AASISATPVVSRGAQEDIIEEYSADSLISRREHWRLLSPSMSPIFFPAKVIISKQVTILNSS
Macaque	(1452)	AASISATPVVSRGAQEDIKEYSAVSLISRREHWRLISSMSPIFFPAKKIISKQVTILNSS
Chicken	(1632)	-----
Zebrafish	(1631)	-----
Drosophila	(782)	-----

Human	(1512)	ALHRFSTKAFNPSEYQAI TEASSNQLRTNIKSQAADSLRELSQTCATCSMTEIKSSREFS
Macaque	(1512)	ALHRFGTKAFIPSEYQAI TEASSNQLRTNIKSQAADSLRELSQTCATCSMTEIKSSHEFS
Chicken	(1632)	-----D--FHTEEVA
Zebrafish	(1631)	-----IQHTEQPA
Drosophila	(782)	-----TPHTPQIV

Human	(1572)	DQVLHSSKQSHFYETFWMNSAILASWYALMGAQTITSGHSFSSATEITPSVAFTEVPSLFP
Macaque	(1572)	DQVLHSSKQSHFYETFWMNSAILASWYALMGAQTITSGHSFSSATEITPSVAFTEVPSLFP
Chicken	(1640)	--QDFS-----
Zebrafish	(1639)	DASFSG-----
Drosophila	(790)	VTILDSN-----

Human	(1632)	SKKSAKRTILSSSLEESITLSSNLDVNLCLDKTCLSI VPSQTISSDLMNSDLTSKMTTDE
Macaque	(1632)	SKKSAKRTILSSSLEESITLSSNLDVNLCLDKTCLSI VPSQTISSDLMNSDLTSELTTDE
Chicken	(1644)	-----
Zebrafish	(1645)	-----
Drosophila	(797)	-----

Human	(1692)	LSVSENILKLLKIRQYGITMGPTVNLNQESLLDMEKSKGSHTLFLKHPDSSSLDFELNLQ
Macaque	(1692)	LSVSENILKLLKIRQYGITMGPTVNLNQDSLLDMEKSKGSHTPFKHPDSSSLDLELNLR
Chicken	(1644)	-----
Zebrafish	(1645)	-----
Drosophila	(797)	-----

Human (1752) IYPDVTLKTYSEITHANDFKNNLPLLTGSPDFSEVTTNVAFYTVSATPALSIQTSSSMS
 Macaque (1752) SYPDVTLKTYSEITLANDLKNLPLLTGSPDFSEVTTNVAFYTVSATPALPIQTSSSMS
 Chicken (1644) -----
 Zebrafish (1645) -----
 Drosophila (797) -----

Human (1812) VIRPDWPFYFTDYMTSLKKEVKTSSEWSKWELQPSVQYQEFPTASRHLPFTRSLTLSSLES
 Macaque (1812) VITPDWPFYFIDYMTSLNKEVKTYSEWSKWELQPSVQYQEFPTASWHLPFTRSLTLSSLES
 Chicken (1644) -----
 Zebrafish (1645) -----
 Drosophila (797) -----

Human (1872) ILAPQRLMISDFSCVRYYGDSYLEFQNVVALNPQNNISLEFQTFSSYGLLLYVKQDSNLVD
 Macaque (1872) IVAPQQLMISDFSCVCYYGDSYLEFQNVVVLNPQNNISLEFQTFSSYGLLLYVKQDSNLVD
 Chicken (1644) -YA-----RYYGDSYLEFQGIHLNVQNFHLEFKTYKPDGLLLYIEESSETIG
 Zebrafish (1645) -----YSGNSFLEFGGFVAVPISVTVRFQTESMYGTLLYS--ASAKRS
 Drosophila (797) -----EVIPSITTTGSPPTHHHHHHHPHHEAEGTTLQPLEEDEHHHHHHDEFTT
Laminin-G domain

Human (1932) GFFIQLEIENGLTKYHFYCPGEAKFKSINTTVRVDNGQKYTLIRQELDPCKAELTILGR
 Macaque (1932) GFFIQLSIENGLTKYHFYCPGEAKFKSINTAIRVDDGQKYTLIRQELDPCKAELTILGR
 Chicken (1691) QFLIQLEIRHGILQYQFVCGKATQVKNITTTARVDDGQYKQVIRQNMKPCAEMLILEV
 Zebrafish (1687) VFFIKLYISNGILQYDFLCNQKQVQRINTAQWVADGNEHVVFQCLFPCVAEIVTVSGV
 Drosophila (848) PQPVEITTGHPLOTEDLIGVQEPAVVITESPFAFATTVVPPVVPATIAPLGTAAPPATP
Laminin-G domain

Human (1992) NTQICESINHVLGKPLPKSGSVFIGGFDDLHGKIOMPVPVKNFTGCIEVIEINNWRSFIP
 Macaque (1992) NTQTCE SINHVLGKPLPKSGSVFIGGFDDLRGKIOMPVPVKNFTGCIEVIEINNWRSFIP
 Chicken (1751) SAKTGIPSNFSSPYGLTGSIFVGGLPYSSAIKQIPEPVYNFTGCIQVIEINNVPFNF
 Zebrafish (1747) RTVRSAPGNYTSLRLRQRTDHFVIGGLPRHRSPYKEAEPFHNVTGCIEIIEINKLRRFHM
 Drosophila (908) APVPPATTPPPSPSLATEIPTPTLPPVTLPPVTPPPTIPPTPPSTQSAOTLPPPT
Laminin-G domain

Human (2052) SKAVKNYHINNCRSQGLMLSPTASFVDASDVTQGVDF--TMTSVSPSVAAPSVCCQDVC
 Macaque (2052) SKAVRNYHINNCRSQGLMLSPTASFVDASDVTQGVDF--AMWTSVSPSVAAPSVCCQEDVC
 Chicken (1811) SNAVGRRNIDSCRIPVPTHLPPTVSSDVLALPE---LVTPSLT-SPELPSVCCQEGIC
 Zebrafish (1807) DHAARNNVDNCRSQWHHEPPTSSSTHSPITLITVETPP-GEWVRVLSPTQAPAVCPQGIC
 Drosophila (968) SAINVYTPDGPPASQTKPSVTESSDEVEGNTVSTGGRGSGGVPEEKACDVCIKLGC
EGF domain

Human (2109) HNGGTCHAIPLSSGIVSFQDCPLHFTGRFCEKDAGLFFPSPFNCSYLELPLFLKVFLEKE
 Macaque (2109) HNGGTCRPIFLSSGIVSFQDCPLHFTGRFCEKDAGLFFPSPFNCSYLELPLFLNFVLEKE
 Chicken (1867) HNGGTCHPISLPTGALSFECDQLHFTGRFCEKDVTLFIPSPFNCSYLELPLSLTSSVQMR
 Zebrafish (1866) LNGGTCRPVSLPSGASSFFQDCPLHFTGRLCEQDITVFSRFDGNSFLELPLSLTIFQSD
 Drosophila (1028) YNGGTCVTTSEGS----RCVCRFDRQGPLCELPITIRNAAFSGDSYVSHRIYKDIGGHE
EGF domain

Human (2169) HN-----RTVTIYLTIKTNSLNGTILYSNGN-NCGKQFLHLFLVEGRPSVKYCGGNSQ
 Macaque (2169) HN-----RTVTIYLTIKTNSLNGTILYSNGN-NFGKQFLHLFLVEGKPSVKYCGGNSQ
 Chicken (1927) TASGQETS-NLTTIYLTIVKTTAPSGTILYTSEK-NFGEQFLHLFLVEGRPTVRESCGNSQ
 Zebrafish (1926) TYFPRSSEDKRIYLTIMKSRTPHGSLLYCREQ-DLGERFLHVLQNAVARAVLCCG-AA
 Drosophila (1083) SLDAVLP---MHIQLKVRTRATNGLIMLAAAGTKGGHYMALFLQKGLMQFQSCGLQT
Laminin-G domain

Human (2221) NILTVSAN-----YSINTNAFTPIITRYTTPVGSPPGVVCMIEMTADGKPPVQKIDTEISH
 Macaque (2221) NILTVSAN-----YSINTNAFTPIITVRHTMPIGSPGVVCMIEMTADGKPPVQKIDTEISH
 Chicken (1985) NILTVSCN-----QITSKGIFIPITISYMLPVSSLEGYCMIEMAADRNPVQVHLHLSYQ
 Zebrafish (1984) HILTAVAA-----QNTIRIDSLVAITVRYALPSQNNQICFIEIADNGTANQQQKYMDEP
 Drosophila (1139) MLLSELETVPVNTGHEITIRAEIDFERNYTHCNASLLVNDTLAMSGDQPTWIKLLPPIHT
Laminin-G domain

Human	(2276)	ASQAYFESMFLGHI PANVQIHKKAG----PVYGFRRGCIILDLQVNNKEFFIIDEARRHKNI
Macaque	(2276)	ASQVYFESMFLGHI PENVQIHKKAG----SVYGFRRGCIILDLQVNNKEFFIIDEARRKNI
Chicken	(2040)	ASQITFGSTFLGNVPHKEVPECAG----QIRGYKGCIRDFOVNNKELFIIDDAIGRNV
Zebrafish	(2039)	VSEVVFPGPTFLGGFSPVIELHNSG----NVSGFTGCIRELQMGSKELYVVGEAIRQNI
Drosophila	(1199)	PEALNTWLHLGGAPQAPIGLI IELPPAQSGSGFTCLHTLRINGQAREIFGDAIDGFGI

Laminin-G domain

Human	(2332)	ENCHVFWCAHHLCRNNGTCLISDNEN-----LFCECPRLYSGKLCQFASCENNPC
Macaque	(2332)	ENCHVFWCAHHLCRNNGTCLSDSEN-----LFCECPRLYSGKLCQFASCENNPC
Chicken	(2096)	ENCNVPICDYHPCRNGGTCTSDAEN-----WFCECPRLYSGRLCQFMICDESPC
Zebrafish	(2095)	QNCDAAVCQHQP CRNNGTCLISDAES-----WFCACPSLYSGKLCQFTACENPC
Drosophila	(1259)	TECGSLACLSSPCRNGAACIKIETNDLDENGEKAEKWKCKCPTGYMGTCEISVCEDNPC

EGF domain

Human	(2381)	GNGATCVPKSGTDIVCLCPYGRSGPLCTDAINITQPRFSGTDAFCYTSFLAYSRIISDISF
Macaque	(2381)	GNGATCVPKSGTDIICLCPYGRSGPLCTDAINITQPRFSGTDAFCYTSFLAYSRIISDISF
Chicken	(2145)	GNGATCFPKSRQDVVCLCPYGRSGILCNDVNVNISQPSFSGTDVFCYTSFLAYSRIIPDITF
Zebrafish	(2144)	ARGATCVPTQLFAACLCYGRGQLLCEAINITRPFSGLDVFCYSSYVAYPSIPSTGH
Drosophila	(1319)	QYGGTCVQFPGSGYICLCPYGRSGHYCEHNLEVALPSFSG-SVNGLSSEVAYVPIPLEY

EGF domain

Human	(2441)	HYEFHLKFKQLANNHSALQNNLIFFTGQKGHGLNGDDFLAVGLLNGSVVYSYNLGSGLIASI
Macaque	(2441)	HYEFHLKFKQLANNHSALQNNLIFFTGQKGHGLNGDDFLAVGLLNGSVVYSYNLGSGLIASI
Chicken	(2205)	YYEFHLKFKQLLNHHSALQNNLIFFTGQKQGLNGDDFLVILGLCDGRVYSYNLGSGLTATI
Zebrafish	(2204)	FYEFHLKLTTFANNASALRNLIIFSTGQKQGLSGDDFFALGVNRGRIIVHKYNLGSGLATI
Drosophila	(1378)	SLLELSEKILPQTMS---QISLFAFFGQSGYHDEKSDHLAVSFIOGYIMLTWNLGAPRRI

Laminin-G domain

Human	(2501)	RSEPF----LNLSLGVHTVHLGKFFQEGWLKVDHKNKSIIPGRLVGLNVFSQFYVGGY
Macaque	(2501)	RSDPF----LNLSLGVHTVHLGKFFQEGWLKVDHKNKSIIPGRLVGLNVFSQFYVGGY
Chicken	(2265)	ISKPF----LDLTLNTHVTHLGRVLRQKGLKVDQKNKTTTSPGRLVGLNVFSQFYVGGY
Zebrafish	(2264)	ISDR----LNPRINHTVHFRVLRKGTGLKVNQKRRRTGTS PGPLMGLNTFSQTYVGGY
Drosophila	(1435)	FTQKPIDFRLDAPRVPEIKVGRIGRQAWLSVDGKFNITGRSPGSGSRMDVLPILYVGGH

Laminin-G domain

Human	(2556)	SEYTPDLLPNGADFKNGFOGCIFTIQVRTEKDGHRGLGNPEGHPNAGRSVGGCHASPCS
Macaque	(2556)	SEYTPDLLPNGADFKNGFOGCIFTIQVRTEKDGHRGLGNPEGHPNAGRSVGGCHASPCS
Chicken	(2320)	HEYTPDLLPKGSRFKNGFOGCIFDVQVRTNMNQEFPSPGTPEGHPNSGRSVGGCHASPCS
Zebrafish	(2319)	EEYTPDLLPPGSRFQNSFOGCI FDM LFRTRQDGKEHALGGPDIRELSGRNVGGCHASPCS
Drosophila	(1495)	EIANFNTLPHDLPLHSGFOGCIYDVLKAGQVTVP----LQETRGVRCRGVGGCHTRECH

Laminin-G domain

Human	(2616)	LMKCGNGGTCIESGTSVYCNCTTGWKG SFC TETVSTCDPEHDPPHHC SRGATCISLPHGY
Macaque	(2616)	LMKCGNGGTCIESGTSVYCNCTTRWKGAFCTETVSTCDPEHDPPHHC SRGATCISLPHGY
Chicken	(2380)	LTKCRNGGKCMESGSTVYCNCLAGWKGAFCTEMVTVCDPEHDPPHLCKQGGTCVPLPNGY
Zebrafish	(2379)	LVFCHNGGTCVDSGSSVYCOVFGWKGALCSEKVSFCDAEHIPPPFCARGSTCVPLSDGY
Drosophila	(1551)	RHACQHDGACIQHGAFTICIQEGWYGPLCAQPTNPCDSFNN---KCYEDATCVPLVNGY

EGF domain

EGF domain

Human	(2676)	TCFCPLGTTGIYCEQALISIDPSFRSNE-----
Macaque	(2676)	TCFCPLGTTGIYCEQALISIDPSFRSSE-----
Chicken	(2440)	MCHCPLGTSPTYCEQDISIDPSFRSNK-----
Zebrafish	(2439)	TCQCPLGSAGLHCQQAITISDPFFSGNQ-----
Drosophila	(1608)	ECDCPVGRTGKNCEVIRSLSDVSLTGRRSYLAVRWPYLYDGGDKLGAKRSQMVSYRNF

Human	(2704)	-----ISWMSFASFHVRRKTHIQIQFOPLA
Macaque	(2704)	-----ISWMSFASFHVRRKTHIQIQFOPLA
Chicken	(2468)	-----SSWMSFAPFYIRHKTHIKIQFOPLS
Zebrafish	(2467)	-----SSWMSFPPINIRHRTHVQIQFOPLS
Drosophila	(1668)	KKLMPPKPIITPSSHVMKLLNEVEKQRSFSPVPLMGSKSFEHHRVQFFFIETQLRPLS

Human	(2729)	ADGTLFYYAAQHLKAQSGDFLCISLVNSSLVQLRYNLG-DRTIILETLQKVTINGSTWHIIK
Macaque	(2729)	ADGTLFYYAAQHLKAQSGDFLCISLVNSSLVQLRYNLG-DRTIILETLQKVTINGSTWHIIK
Chicken	(2493)	PDGTLFYTAQRLGTQSGDFLCISLVNGFLQLRYNLG-DKTIVLQAVQKVHADGQTHWHLK
Zebrafish	(2492)	PEGTLFYTAQHLSTHSGDFLSISLSAGFLQLRYNLG-NQTIVLQSPKELDVTGVRWHTVK
Drosophila	(1728)	ERGLLLYFGLTLNNDKKGIFVSLSLQGGVVEFRISGSPSNHVTVRSVRMLAIGEWKIK

Laminin-G domain

Human	(2788)	AGRVCAEGYLDLDGINVTEKASTKMSSLDNTDFYIGGVSSLNLVNPMAIENEVPGFQGC
Macaque	(2788)	AGRVCAEGYLDLDGINVTEKASTKMSSLDNTDFYIGGVSSLNLVNPMAIENEVPGFHGC
Chicken	(2552)	VGRVCEGNYDLDGINITHTASAGCMVLDTHDFYVGGVSSLNLVNSMATENEPTGFSGC
Zebrafish	(2551)	AGRECNNGFLIVDGEVTRNSSESTTLDVGANITIGGISSLNTVSIIDAVEKELVGFSTGG
Drosophila	(1788)	MAQRCRWLTLWVEGSASSALAPSAEVLVEPDSLLEYIGGLKDVSKLPHNAISGFPIIFRGC

Laminin-G domain

Human	(2848)	IRQVLIINQELQLTEFGAKGGSNVGDCDGTACGYNTCRNGGECTVN-GTTFSCRCPLDWA
Macaque	(2848)	IRQVLIINQELQLTEFGAKGGSNVGDCDGTACGYNTCRNGGECTVN-GTTFSCRCPLDWA
Chicken	(2612)	IRELVINDKELKLVTDPKGGANIGDCDGTVCVGYVCKNNGTQVE-SSGFSCSPQGI
Zebrafish	(2611)	IREVVNGQELELTETGALDGANVGDWGTACGYKVCKNGGHCHPSGDFSFCTICPSLWT
Drosophila	(1848)	VRGLVVSSTRIVLNETNIVESRNIRDCDGTACGGDSCESGGHCWIDEKLQPHCTCPEYAK

EGF domain

Human	(2907)	GNTCNQSVSCLNNICLHQSLCIPDQSFS-YSCICLIGWVGRYCNKTSFSTAKFMG-NSY
Macaque	(2907)	GNTCNQSAAYCLNNICLHQSLCIPDQSFS-YSCICLIGWVGRYCNKTSFTAKFMG-NSY
Chicken	(2671)	GNTCEESVHCLHNRCSQALCIPQALLSYTCVCPGWSGKHCDSKISFTAKFMG-NSY
Zebrafish	(2671)	GSRCCQSIQCLNNICQHNVCIHNSISASYSYSCMCSLGTGTGHCREVTLKTIIFLIG-NSY
Drosophila	(1908)	GDRCEYSETCKLIPCKNNGRCLRSGRCS----CPNGWGGFYCEIAMSKEPTTPSFRGNSY

EGF domain

Human	(2965)	IKYIDFNRYMRN-----LQFTTISLNFSTTKTEGLIIVWVGIAQNEENDFLAIGL
Macaque	(2965)	IKYIDFNRYMRN-----LQFTTISLNFSTTKTEGLIIVWVGIAQNEENDFLAIGL
Chicken	(2730)	IKYIDELYGKRD-----LQYSRISLNFSTNQIEGLMVWVGKAEDEDFLAIGL
Zebrafish	(2730)	LKYIDPKYNSRN-----LMHTEVSLNFSTAGDGLIIVWVGKAESEDDHDLAVGL
Drosophila	(1963)	LILPPFRIPMKDKRRGPSLYVRPREAIVSLNFSTIEPDGLLIWSEHERSK---FLGLGL

Laminin-G domain

Human	(3014)	HNQTLKIAVNLGERISVPMSYNNGTFCCNK-WHHVVIQNTQLIKAYINNSLIILSEDDIDP
Macaque	(3014)	HNQTLKIAVNLGERISVPMSYNNGTFCCNK-WHHVVIQNTQLIKAYINNSLIILSEDDIDP
Chicken	(2779)	ANGRLKVINLGERISVPMIHSKDSICTDERWHFVTVIQNTCIKVIYLDDEELIFEDIDP
Zebrafish	(2779)	QDGYLKVSVNLGERTALPLVYQNSFCCNYW--NYLSITHNRTLIVYVNEERVIFEDIDP
Drosophila	(2020)	EAGHLKIASNLLGSTNDTVRAPASCFIADGAWHTSVLLDRSRLEQLDGEVIFTERLPE

Laminin-G domain

Human	(3073)	-----HKNEVALNYDGIQYVGGFEYGRKVNIVTQEIFKTNFVGGKI
Macaque	(3073)	-----HKNEVALNYEGICVGGFEYGRKVNIVTQEIFKTNFVGGKI
Chicken	(2839)	-----HRKVTALNYGGICVGGFEIGRKVHTATAGLFOKEEFGKI
Zebrafish	(2837)	-----FEQYAVVNYGGVIVLGGFELNRDVASVTSGVFTKGFEGSI
Drosophila	(2080)	GGRSLGSTTPRSTLAGRRKNSSKEPTISYEDVYVGGFPNSDSVSRRTKGRFDFDFKCL

Laminin-G domain

Human	(3113)	KDVVFFQE-PKNIELTK-LEGYNVYDGDEQNEVT---
Macaque	(3113)	KDVVFFQD-PKKIELTK-LEGYNVYDGDEQNEVT---
Chicken	(2879)	KDIALFQD-SKKIQLMK-GEGYNVHNGDHRN-----
Zebrafish	(2877)	KDVFLYQD-TKQLQFLOTCEGFNVYQGEE-----
Drosophila	(2140)	QDIQFGAEPITAIISDFSTYQGENIGSCDLHGDEPLTV

Signal peptide EGF domain EGF-like domain

Laminin-G domain Calcium-binding EGF-like domain

Residues identical in all sequences are white on a black background, whereas similar amino acids are white on a gray background. Residues that are present in at least three of the five proteins are indicated in black on a light gray background.