

10 20 30 40 50 60 70 80 90
Xenopus LR MFWHWILPFFLLRLRYMOITAAAYSEMWTTPSPDFLLTCTLTKNSVN-YPLLAGILQNKSDISGKYDITLEGRSDFRCHTLADLKSQGRVSCG 89
Human LR MICOQFQVLLHWEFLYVITAFNLSYPIIPWRFKLSMFPNSITYYFLLPAGLSKNISNSNGHYETAVEPKFNSSGTHFNLKTIIFHCC 90
Mouse LR MCOQFYVLLHWEFLYVITAAALNLAYPTSPWKFKLFCGFPNTTDDSFLLSPAGAPNMSALKGASBAIVAKFNSSGIVPELTKTIFHCC 90
Chicken LR NYHCTILTMSLLLGFLLVAHAHGMVHEIIPRSFTLLFCLLNETSS---SPSAGVVRFSRGRWRHEHVAETNP-S-----LLMDEESFLCC 82

100 110 120 130 140 150 160 170 180
Xenopus LR LWDHLNITNFSQNGVAELKEML-FASFAIDQLLEDFSWKVCQSFEEKVNTLCTDLOLLPETKHIVTDYRTSLHLYSLVAK----S---ELK 171
Human LR FRSEQDRNCSLACADNIEGKTFV-STVNSLVFQGDANWNICQWLKRGDLKLEICQYESLFPKFLFRNYKYVHLLVYLVPEV-LEDSPLVPOK 178
Mouse LR FGNQEGNCALDNTIEGKTLA-SVVKASVFRQLGVNMDTECWKGDLLTFLICHMEPLPKNPKFNYSKVVHLLVYLVPEV-IDDSPLVPLK 178
Chicken LR LWSNNMASCLSYANMQARMLIPSEMSTASQERDSNWNIECWVEGKLDLLVCSLQ-FPKFHVH-LDMKVHLLYAVSELSLGDASTSLK 170

190 200 210 220 230 240 250 260 270
Xenopus LR G---TAEGRFCGYEKCECIVPSV--KFNQDYIILWIEILNITALLHSPFMSVYPYHIVKPPDFDLRAETMECGILKVFMLKPIISAAYELQ 256
Human LR GSFQMVHCNCSVHECCCECLVPVPTAKLNDTLMLKIKITSGGIFQSPMSVQPINMVKPDDLGHMEITDDGNLKISWSSPPLVFPFLQ 268
Mouse LR DSFOTVQCNCSLRG-CECHVPPVRAKLNALLMYLEITSAVGFQSPMSLSIQMLLVKPPDPLGLHMEVTDGNNLKISWSSQTMAPPFLQ 267
Chicken LR RTALAAQCNCSEYKCECHVPSP--RLNFTYVMMLKTVIGVTLWSPMSVYKPIIDIVKPEPPLNVRLMIFERQVKIKQWSEFVPMFVPLR 258

280 290 300 310 320 330 340 350 360
Xenopus LR YQVRYTVKAAETNSQVYLLVNETSVIISDITCFCTEMVIEVRCILNHLKSLGWSWSKTIVLNS-QDVYFPPKVLVSSGSSTSVSLFCFON 345
Human LR YQVKYSENSTIVIREADKIVSATSLLVDSILPGSSYEVQVVRKRLDGGCIVSDWSTFRVFTT-QDVYFPPKILTSVGSNVSFHCYKKE 357
Mouse LR YQVKYLEN-STIVIREAAEIVSATSLLVDSVLPGSSYEVQVVRKRLDGSQVSDWSVQVFTT-QDVYFPPKILTSVGSNASFHCYKNE 355
Chicken LR CEVNTSINSDQNDWQVQVALNLSLDLNNLDDSSFAQVRCRSHKCGPFWEWSTLYLNLVNGAEVLYFTKILTSVGSNVSFHCYKKN 348

370 380 390 400 410 420 430 440 450
Xenopus LR GKKVPSNNTIWWLNFCEKIPKHQYRATSDYFSKVFLLHNLNTPKPKGKFRYDALHCCINHNECHHRYAELVYLDVNTSISCETDGNQKMT 435
Human LR NKTIVPSREIYVWNLAEKIPQSOYDVSDDLVSKVTFNLENTKPRGKFTYDAVYCCN-EHCHHRYAELVYLDVNTSISCETDGYLTKMT 446
Mouse LR NOITSSKQIVWNLNLAEKIPEIQSYSDRVSQVTFENLQKATPRGKFTYDAVYCCN-EQACHHRYAELVYLDVNTSISCETDGYLTKMT 444
Chicken LR TCSVASKKIWWLNLAEIIPESQYTLVNDRVRSKVTLFNLIKATKPRGSHFYALYLCCHQNRCHHRYAELVYLDVNTSISCETDGYLTKMT 438

460 470 480 490 500 510 520 530 540
Xenopus LR CRWSQNMITPEGSVLCFKYVRRNKLYCLDKDLKGNVPTSKDCCLQMDGFYECTFEPVHLSVGYTMMWIEIQLHLGALNSPPVCIIPINTV 525
Human LR CRWSTSTIOSLAESTQLRHYRS-SLYCSDIPSIHFISEPKDCYLQDGFYECTFQPIFLSGYTMWIRINHSLGSLSDSPTCVLPDVSV 535
Mouse LR CRWSPSTIOSLVGSTVOLRYHR-SLYCSDIPSIHFISEPKCQLORDGFYECVFPPIFLSGYTMWIRINHSLGSLSDSPTCVLPDVSV 533
Chicken LR CRWSANPNALLGSSLQLYHMS-KIYCSNFPSTPPESEVKECHFQRNHSYECTFQPVFLLSGYTMWIELKHSGLTLESPTCVLPADV 527

550 560 570 580 590 600 610 620 630
Xenopus LR KPLAPSRVRAEYTKGSHLYVSNKRPALFSTDLQFOVRYCLCGOGHITWIKVOVLDIFEEFYSIVQVPLVYCASVYVQVRSRRITDQGYWSDW 615
Human LR KPLPPSVAKEIITINIGLLKISWEKVPVFPENLQFOIRYGLSGKEVQNKMEVYDAKSASLSLVPDLCAVYVQVRCRRLDGLGYWSNW 625
Mouse LR KPLPPSNVAKEIITVNTIGLLKVSWEKVPVFPENLQFOIRYGLSGKEIQWTKHEVFDAKSASLSLVPDLCAVYVQVRCRRLDGLGYWSNW 623
Chicken LR KPLPPSNVAKEIITRNIGLLVSNVTPVFTNDLKHQIFRYAVNREELTVELYVELVSLAGVIEV-CLQVEYIVQVTRCALDGLGYWSNW 616

640 650 660 670 680 690 700 710 720
Xenopus LR SCPVHTVVRDIRVPLCGPTIFWRITHHNPNQKGDNIISINQPIPSEHSLCSIQGYEIVHLSNKNVTSKYVGNITKHTFTLSDNAVTVTLL 705
Human LR SNPAYTVVMDIKVPMRGPFWRIINGDTMKKEKNVTLWKPMLKNSDLSVQORYVINHTSCNGTWSDEVGNHTKFTFLWTEQAHVTVTL 715
Mouse LR SSPAYTVVMDIKVPMRGPFWRKMDGDVTKKERVNTLLWKPITKNSDLSVQRYVVKHRTAHNGTWSDEVGNHTNITFLWTEPAHTVTVTL 713
Chicken LR SRSAYAAVKDIQAPLIGPEFWRTVTEDDPATGQKNVTLWKPMLKNHSLCSVSRVYIKHQTSENTSWSEYVMDGTCISFFWTESTHITITL 706

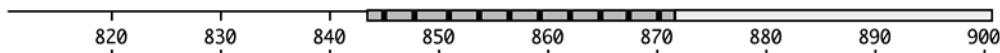
730 740 750 760 770 780 790 800 810

Xenopus LR AVNSLGYSLTINSKLTFSCEMSTVTSVESFRVYHMMNTCAVAVWIMLPKSDMPLEFIVIEWKNLGNEEKVQVMNIPQNSRQYITEDNFFATE 795

Human LR AINSLGASVANFNLTFSWPMSKVINIVCSL SAYPLNSSCVILSWLSPSDYKLLMYFIEWKNLNEDGEIKWLRITSSVKKYYTHDHFPIIE 805

Mouse LR AVNSLGASLVNFNLTFSWPMSKVAVESLSAYPLSSSCVILSWLSPDDYSLLYLVIEWKLNEDDGMKWLRIPSNVKKFYIHDNFPIIE 803

Chicken LR AVNSLGASVNFNLTLSQQMSTVNAVQSLIAYPVNSTCVILTWLSPQIVVITSFIEWRNLNKEEMKVVQVPPNISKHYIVYDFILIE 796



820 830 840 850 860 870 880 890 900

Xenopus LR KYVFSLYPVFPEGVGRSKVNVNGFSTVELTEAPKDAGLYVLLPVISFSVLLLTGTLISHORMKKLFWKDVPNPKKCSWAQGVNFEKPDIL 885

Human LR KYQFSLYPIFMIEGVGKPKIINSFTDDTEKHCSDAGLYVIVPVISSSILLGTLISHORMKKLFWEDVPNPKNCSWAQGLNFQKPETF 895

Mouse LR KYQFSLYPVFMEGVGKPKIINGFKKADIDKQCDAGLYVIVPVISSCVLLLTGTLISHORMKKLFWKDVPNPKNCSWAQGLNFQKPETF 893

Chicken LR KYRFSLYPVFAAGVGRSRATDQFSKDGYS-QTSSNLYMVLPIVISTVLLGLALLVSHRRMKKLWEDVPNPKNCSWAQGVDFQKPETF 885



910 920 930 940 950 960 970 980 990

Xenopus LR EHLFMKFKHKHPANCSPIFLFEPEAVFEDLSDIKQVPHETIDNIPAVNSLFTVSEEPDHSACGSSNFSSSGCAFETDHCEMYSS--SLIQSS 973

Human LR EHLFIKHTASVTCG-PLLLPEPETISEDISVDTSWKNKDEMMPITTVSLLSTTDLLEKGSYCISDQFNVMNFSEAEGETVITYEAESQRQPF 983

Mouse LR EHLFIKHAESVYIFG-PLLLPEPETISEISVDTAWKNKDEMVAAMVSLLLTTPDPESSSICISDQFNANFSGSQSTVQVTCDECORQPS 982

Chicken LR EHLFVKHPEAMSFEL-PLLLPEPETIYLEDISVTKALEQEDTQDFVLVDSFTFKPEDSEHDSACFSHFSGRSSLHCSPSPDFTSG-ETASQSN 973



1000 1010 1020 1030 1040 1050 1060 1070 1080

Xenopus LR IEYATIMNNTQOCRKYSSERKTSLSSEGGCLLGNSSMVIC-----NHDVDKQTLVFLAGLHTRKOPDKMCSNSTVSSSE-GFSEFLDEEDSF 1057

Human LR VKYATLISNSKPSSETGEEQGLINSSVTKGFSKNSPLKDSFNSSSWETEAAQAFILLS---DQHPNITSPHITFSEG--LDELLELLEGF 1067

Mouse LR VKYATLVSNDRKLVETDEEQCFIISPIVSNLCSNSNPLRQSFSSSSWETEATQFFLLS---DQOPTMISPLSFSG---LDELLELLEGSF 1065

Chicken LR IKYATVITNSRSGGLYE-QNKNRCHFDGCFLAEDSLAAGACSGSSWELGNEAFLLLP---DQPGSQPKTLLSISEGFSFSPSQDDAF 1059



1090 1100 1110 1120 1130 1140 1150 1160 1170

Xenopus LR LEADGLERNLYLEFGSIOCGQOODCYSEKPLGTFPFOENTSYKETEIDFKKDKASEFIDN-YDIKNSFKKAFLGYMPQFQTHSILKPGEME 1146

Human LR PEENNDKSIYYLGVTSIKKRESGVLLTKSRVSCFPAPCLFIDIRVLQDSCSHFVENNINLGTSSKKTFAASYMPQFQTCSTQTHKIME 1157

Mouse LR PEENHREKSVGYLGVTSVNRRESGVLLTGEAGILCTFPAQCLFSDIRILQERCSHFVENNLSLGTSGE-NFVPMYMPQFQTCSTHSKIME 1154

Chicken LR TDGGSPERGLHYLETLSLCKRENDIFLTSRLMCHHTADLRGVFLON----TPPNLNAFIQSSIKATVIVYVPOFQMTAAKVKQETIE 1145

Xenopus LR SETLN 1151

Human LR NKMCDLTV 1165

Mouse LR NKMCDLTV 1162

Chicken LR NSC 1148