

Ce-LON-2 -MVFR-----WLILFVLLYRSVLP---A----- 19
 Cjp-LON-2 MHFFR-----WLILLVLLRSSTPT-EDAE----- 23
 Cbn-LON-2 -MNFR-----WLILLVYFRSISP---T----- 19
 Cbr-LON-2 -MNFR-----WLILLVFLFRTALP---LS----- 20
 Cre-LON-2 -MNFR-----WLILLVLLFRALS---S----- 19
 Drosophila-Dally -MAARSVRLAQLLLFTLLCGFVGLSAAKHLDLGIIHHQHHLHSATTHRRRLQRDSRAK 59
 Mouse-Glypican -MELR-----TRGWLLCAAALVCA-----R 22
 Human-Glypican -MELR-----ARGWLLCAAALVCA-----R 22

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Ce-LON-2 -----EEV-VVV---DIL-----TNS---TSLEEPTTEYTC-DCNTDD-LIQKGN 55
 Cjp-LON-2 -----NEK-VVI---DLL-----TNT---TTVEE-SEDVIC-DCNGSD-MLEKAN 58
 Cbn-LON-2 -----DDA-VVF---DIL-----TNS---TSLEEPTTEYTC-ECDVVE-LTEKGN 55
 Cbr-LON-2 -----EEV-VIV---DTL-----TNS---TALEEPTDEYTC-DCNDKD-LLEKGN 56
 Cre-LON-2 -----EEV-VVV---DIL-----TNS---TSLEEPTDEFTC-ECDAED-LLEKGN 55
 Drosophila-Dally DAVGGSTHQCDAVKSYFESIDIKSSG--TYSEKGRHLRRKL--LQQCHGAGA---AGQSR 112
 Mouse-Glypican GDPASKRSRSCSEVRQIYGAKGFSLSVDPQAEISGEHLRIPCQGYTCCTSEMEENLANHSR 82
 Human-Glypican GDPASKRSRSCSEVRQIYGAKGFSLSVDPQAEISGEHLRIPCQGYTCCTSEMEENLANRSH 82

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Ce-LON-2 YTLTVEVKNMQVRLVEFFRDAIAFTTGEKKHLLDFIRFVTLREVRSTYPLLLNYTDFLNS 115
 Cjp-LON-2 YTLTVEVKNMQVRLVEFFRDAIAFTTSEKQHLLRFVYVTLRDIRSTYPMLLNYTDFYAN 118
 Cbn-LON-2 YTLTIEVRNMQVRLVEFFRDAIAFVASEKQHLLDFIKFVTLRDIKADYPLLLNYTEFYDS 115
 Cbr-LON-2 YTLTVEVKNMQVRLVEFFRDAIAFTTSEKQHLLDYIQFVVLTRDTKATYPLLLNYTEYASS 116
 Cre-LON-2 YTLTVELRNMQVRLVEFFRDAIAFVASEKTHLLDFIKFVTLRDIRSTYPLLLNYTEFYTN 115
 Drosophila-Dally RNVRTA--SSP-HQQPARSPRDECQSHVLELAQISE---NMTHSLFSK--VYTRMVPS 163
 Mouse-Glypican MELESALHDSRALQATLATLQHLGIDDFHQRLLNDSE---RTLQEAFFG--AFGDLYTQ 136
 Human-Glypican AELETALRDSRVLQAMLATQLRSFDDHFQHLNDSE---RTLQATFFG--AFGELYTQ 136

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Ce-LON-2 ----FDEMIGTFRNILT-----TE---NAISLTGIKYEVTAVQKFLSAILPDMFLCL 161
 Cjp-LON-2 ----YDELLGTIANILL-----TE---NDISFSGIRYEVTTAVDKFLKSLPDMFLCL 164
 Cbn-LON-2 ----FDGLIGSLRGLILT-----TD---NAISLSGIKYEVTAVQKFLNKLPLDMFLCL 161
 Cbr-LON-2 ----FDELIKTFKNILS-----TE---NDILLSGIKYEVTAVQKFFTSLLPDMFLCL 162
 Cre-LON-2 ----FDDLIGTFRNILT-----TE---NAISLSGIKYEVTAVQKFLSALLPDMFLCL 161
 Drosophila-Dally SRMMIHQLYTEIMNHLIYTSNYTNSNGQLGRRGIGSVQSNLEEAVRHFFVQLFPVAYHQM 223
 Mouse-Glypican NTRAFRDLYAELR-----LY---YRGANLHLEETLAEFWARLLERLFKQL 178
 Human-Glypican NARAFRDLYSELR-----LY---YRGANLHLEETLAEFWARLLERLFKQL 178

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Ce-LON-2 S---VGKCRVPLDYHNCMMMASTKHWSVYLGNTPNKMAMTISEAIYRYRKVEFLLV---D 215
 Cjp-LON-2 S---VGKCRVPLEYHNCMLENTKHWSTYIGNTPNKMAATISDTIYRYRKVEFLLV---D 218
 Cbn-LON-2 S---VGKCRVPSDYNCMMASTEHWVSVYLGNTPNKMAMTVSEAIYRYRKVEFLLV---D 215
 Cbr-LON-2 S---VGKCRVPLEYQNCMTASTEHWVSVYIGNTPNKMAVTIAEAIYRYRKVEFLLV---D 216
 Cre-LON-2 S---VGKCRVPLEYHNCMMTSTEHWSEYIGNTPNKMAMTADAIYRYRKVEFVLV---D 215
 Drosophila-Dally VHLSKNNLGDLDHEDYVNCLEHNFDEMHP-FGDI PQQVQSNLKGKSVHMSNVFMNALLQAAE 282
 Mouse-Glypican H-----PQL-LPDDYLDCLGKQAEALRP-FGDAPRELRLRATRAFVAARSFVQGLGVASD 231
 Human-Glypican H-----PQLLPDDYLDCLGKQAEALRP-FGEAPRELRLRATRAFVAARSFVQGLGVASD 232

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Ce-LON-2 MHKQLMNAHNLTLSHECLQEYVHTLPCN-C-----TMAGITPCHTSCSNSEMEKCFGKFS 268
 Cjp-LON-2 MHKQLMNAHNLTLDACLQEYVHTLPCN-C-----TTSIGIRCKTSCSDAMEKCFGKYS 271
 Cbn-LON-2 MHRQLMQAHSLTITDECLSEYVNTLPCN-C-----TMLGIARCGTSCPNSEMEKCFGKFS 268
 Cbr-LON-2 MHQQLMNAQSLTITDECLQYVHSLPCN-C-----TLSGIVRCQTS CATSMETCFGKYS 269
 Cre-LON-2 MHKQLMNAHSLTVTDGCLTEYVHTLPCN-C-----TMLGIVRCHTSCSDSMETCFGKYS 268
 Drosophila-Dally VLSEADALYGEQLTDTCKLHLLKMHYCPNCNGHSSSRSETKLCYGYCKNVMRGCSAEYA 342
 Mouse-Glypican VVRK---VAQVPLAPECSRAIMKLVYCAHCRGVPG-----ARPCPDYCRNVLKGCLANQA 283
 Human-Glypican VVRK---VAQVPLGPECSRAVMKLVYCAHCLGVPG-----ARPCPDYCRNVLKGCLANQA 284

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Ce-LON-2	----REWAAKLHLMRNMTSTKKSFLDEFLSLK---KTIFSVIRIFIERK\$YVYA\$EHV\$FNS	321
Cjp-LON-2	----RDWSAKLHLMRNMTNTKRFLEGFLTLK---KTIFSAIRLFIERKSFVYAEHVFNS	324
Cbn-LON-2	----REWAAKLHLMRNMTNSKKSYLEEFLTLK---KTIFQVIRQFIERKSFVYAEHVFNS	321
Cbr-LON-2	----REWAAKLHLMRNMTSTKKSFLDEFLTLR---KTIFSVIRLFIERKSFYAAVYKA	322
Cre-LON-2	----REWAAKLHLMKNMTSTKKSFLDEFLTLK---KTIFSVIRLFIERKSFYAEQVFKS	321
Drosophila-Dally	GLLDSPWSGVVDLNLNLTTHILSDTGIINVIKHLQTYFSEAIMAAMHNGPELEKKVKKT	402
Mouse-Glypican	D-LDAEWRNLDSMV-LITDKFWGSPGAESVIGGVHVLAEAINALQDNKDTLTAKVIQA	341
Human-Glypican	D-LDAEWRNLDSMV-LITDKFWGTSGVESVIGSVHTWLAEAINALQDNRDTLTAKVIQ	342
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Ce-LON-2	CGPLGEMIIH-----PSKHS-----VHFQSPGPFVSRGDGAVRELQLSAKTWDRGRK	369
Cjp-LON-2	CGPLGEMIIH-----PSKHI-----FHLFSPGPFVSRADGAVRELQLSKMWEKGRK	372
Cbn-LON-2	CGPLGQMIH-----PSKHV-----TRFHSPGPFVSRADGAVKELQLSAKSWDRFGRK	369
Cbr-LON-2	CGPLGEMIIH-----PSKHV-----ARIHSPGPFVSRADGAVRELQLSAKSWDRFGRK	370
Cre-LON-2	CGPLGEMIIH-----PSKHV-----AQIHSPGPFVSRADNAVRELQLSAKSWDRFGRK	369
Drosophila-Dally	CGTPSLTPYSSGEPDARPPPKNVWATDPPDGMVLF-----LSTIDKSKEFYTTIVDN	457
Mouse-Glypican	CGNPKVNPHGSGPEEKRRRG---KLALQEKPSTGTLEKLVSEAKAQLRDIQDFWISLPGT	398
Human-Glypican	CGNPKVNPQGPPEEKRRRG---KLAPRERPPSGTLEKLVSEAKAQLRDVQDFWISLPGT	399
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Ce-LON-2	ICDHSGV--VLNPTMCYDGTQKVISIDHDL--PITKDVRPRPMDWIEKK-----	415
Cjp-LON-2	ICEHNGI--VYHPTLCFDGTQKVISIEHELP--PITKDVRPRPMDWIEKR-----	418
Cbn-LON-2	ICDH-GV--VLHPGMCYDGTQVIT-----	390
Cbr-LON-2	ICDHTGV--VVHPGMCYDGTQKVIKVEHELL--PITKDVRPRPMDWIEKK-----	416
Cre-LON-2	ICDHTGV--VLHPGYCFDGTQKVIKIQHELA--PITKDVRPKTMDWIEKK-----	415
Drosophila-Dally	FCDEQQH--SRDDHSCWSDGRFDGDTQLLINPGTDSQRYNPEVFPNAKAQTGKLNELVDK	515
Mouse-Glypican	LCSEKMAMSPASDDRCWNGISKGRYLPEVMGDGLANQINNPEVEVDITKPDMTIRQQIMQ	458
Human-Glypican	LCSEKMALSTASDDRCWNGMARGRYLPEVMGDGLANQINNPEVEVDITKPDMTIRQQIMQ	459
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Ce-LON-2	---NEKKA--NVEGASNPLWDEDESDFDGSGSGMPPV-IDRNPVKAVIQEDHPKNIDL	469
Cjp-LON-2	---GEKKPTAVVEGS-ASPLWDEDESDDFEGSGSGLPTTIDNKEPKT---EEPTKTIDL	471
Cbn-LON-2	-----	390
Cbr-LON-2	---NEKKI--AVEGSA-SPLWDEDESDGFEFGSGSGMPPIIIDRNPVKAVIQEDHPKNIDL	470
Cre-LON-2	---NEKKI--AVEGSA-SPLWDEDESDGFEFGSGSGMPPNIIDRNPVKAVIQEDHPKNIDL	469
Drosophila-Dally	LFKIRKSIG-AAAPNSIQATHDIQNMDGEGSGGGEGQIGDDEEYGGAHGSG-DGSGDG	573
Mouse-Glypican	LKIMTNRLR-GAYGGNDVDFQD--ASDDGSGSGSGGCPDDTC---GRRVSKK-SS---S	508
Human-Glypican	LKIMTNRLR-SAYNGNDVDFQD--ASDDGSGSGSGDGLDLDLC---GRKVSRK-SS---S	509
Ce-LON-2	STNPKGFS-----VIVTEKEIQPDGSTTSSILICVII-VAVIKLF-----	508
Cjp-LON-2	SINPKGFS-----VIANEQENSPEPDGSSSTICPITIL-ALVLAFCI-----	512
Cbn-LON-2	-----	390
Cbr-LON-2	STNPKGFS-----VIVTEQGSQPDGSSSTVSALTSII-IAIRFF-----	509
Cre-LON-2	STNPKGFS-----VIVTEQGVQPDGSSSILTIFTSLIF-IAIRLF-----	508
Drosophila-Dally	PHTPIESEGTTNEVESRDSGKTSGSNPLEGATWMLLTIVTMLFSSCS----	623
Mouse-Glypican	SRTPLTHALP----GL-SEQEGQKTSAAATCEPHSFFLLFLVTLVLAARPRWR	557
Human-Glypican	SRTPLTHALP----GL-SEQEGQKTSAAASCPQPTFLPLLLFLALTVARPRWR	558