

**Fig S1** : sequence alignment of RrgA, RrgB, RrgC, GBS52 CnaB domains. The bars represent the  $\beta$ -strands of the RrgA-D4 (Izoré et al. 2010) and the GBS52-N2 (Krishnan et al. 2007) domains. Residues involved in isopeptide bond formation are indicated in red.

|            |     |   |     |
|------------|-----|---|-----|
| RrgA-D4    | 731 | -KEKKLGDIEFI <b>K</b> VNKN-DKKP-LRGAVFSLQKQHP-----                                      | 763 |
| RrgB-CnaB  | 441 | EPKVVTYGKKFV <b>K</b> VN---DKDNRLAGAEFVIANADNAGQYLARKADKVSQEEKQLVVTTK                   | 497 |
| RrgC-CnaB1 | 143 | KTDTMTTKVKLI <b>K</b> VDQD---HNRLEGVGFKLVSVAR-----                                      | 175 |
| RrgC-CnaB2 | 253 | -QKLPRGNVDFM <b>K</b> VDGR--TNTSLQGAMFKVMKEES-----                                      | 285 |
| Gbs52-N2   | 151 | ---WSTGELDLL <b>K</b> VGVGDGDTKKPLAGVVVFELYEKNG-----                                    | 183 |
|            |     |   |     |
| RrgA-D4    | 764 | -----DYPDIYGAIQNGTYQNVRTG   | 784 |
| RrgB-CnaB  | 498 | DALDRAVAAYNALTAQQQTQEQEKEKVDKAQAAYNAAVIAANNAFEWVADKDNENVVKLVS                           | 558 |
| RrgC-CnaB1 | 176 | -----DVSEKEVPLIGEYRYSSSGQVGRITLYTD  | 203 |
| RrgC-CnaB2 | 286 | -----GHYTPVLQNGKEVVVTS  | 303 |
| Gbs52-N2   | 184 | -----RTPIRVKNVHSQDIDAAKHLET   | 207 |
|            |     |   |     |
| RrgA-D4    | 785 | EDGKLTFKNLSDGKYRLF <b>E</b> NSEPAGYKPVQNKPIVAFQIV---NGEVRDVTSIVPQDI                     | 839 |
| RrgB-CnaB  | 559 | AQGRFEITGLLAGTYYLE <b>E</b> TKQPAGYALLTSRQKFEVTATSYSATGQGIETYTAGSGKDD                   | 617 |
| RrgC-CnaB1 | 204 | KNGEIFVTNLPLGNRYRFK <b>E</b> VEPLAGYAVTTLDTDVLVDHQLVTTITVV <b>N</b> QKLPRGNVDF          | 262 |
| RrgC-CnaB2 | 304 | KDGRFRVEGLEYGTYLW <b>E</b> LQAPTGYVQLTSPVSFTIGKDRKELVTVV <b>K</b> NKRPRIDV              | 362 |
| Gbs52-N2   | 208 | SSGHIRISGLIHGDYVLK <b>E</b> IETQSGYQIGQAETAVTIEKSKTIVT <b>V</b> TIE <b>N</b> KKVPTPKVPS | 266 |
|            |     |   |     |
| RrgA-D4    | 840 | PAGYEFTNDKHYIT <b>N</b> EPIPPK  | 860 |
| RrgB-CnaB  | 618 | ATKV <b>V</b> N <b>K</b> K-----   | 625 |
| RrgC-CnaB1 | 263 | MKVDGRITNT-----   | 271 |
| RrgC-CnaB2 | 363 | PDTGEETLYI-----   | 372 |
| Gbs52-N2   | 267 | RGGLIPKTG-----  | 275 |

**Fig S2** : Structural superposition of RrgA-D4 (orange) and GBS52-N2 (gray) CnaB-domains. For figure clarity, the loops have been removed. The intramolecular bonds and the glutamate residues are represented by sticks, RrgA (red) and GBS52 (blue).

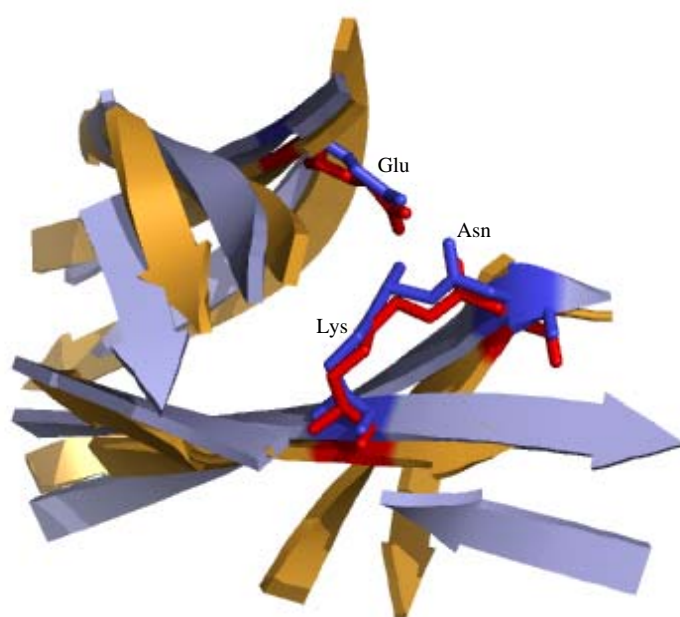


Table S1. Primers used for the co-expression constructs.

| Primer       | Sequence  |
|--------------|---|
| RrgB_F63Eco  | 5' CGC G ATA TCG GCT GGG ACG ACA ACA ACA TCT GTT ACC 3'   |
| RrgB_R63Xho  | 5' GCG CTC GAG ACC ACC CGT TTG TGG GAT AGT G 3'           |
| RrgC_F64Bam  | 5' CGC G GAT CCG GTC CAA GCG CAA GAA GAT CAC ACG 3'       |
| RrgC_R64Hind | 5' GCG AAG CTT TCA TTC TTC CCC TGT ATC TGG CAC 5'         |
| SrtC1_F66Nde | 5' CGC CAT ATG GAA TCA AAT CAA CAA ATT GCT GAC 3'         |
| SrtC1_R66Xho | 5' GCG CTC GAG TCA ATG ACT GAG TTT GTT TGC TGC AAT AAA 3' |

Table S2. Strains used in the co-expression experiments.

| Plasmids transformed into <i>E.coli Star</i> strains | Proteins co-expressed  |
|--|--|
| pLIM01 RrgB  | H6-RrgB <sub>30-633</sub>  |
| pETDuet RrgB   | RrgB <sub>30-633</sub> -S-Tag  |
| pACYCDuet RrgC                                       | H6-RrgC <sub>22-368</sub>  |
| pACYCDuet SrtC-1                                     | SrtC-1 <sub>17-228</sub>   |
| pETDuet RrgA + pACYCDuet SrtC-1                      | H6-RrgA <sub>39-868</sub> ; SrtC-1 <sub>17-228</sub>   |
| pETDuet RrgB + pACYCDuet SrtC-1                      | RrgB <sub>30-633</sub> -S-Tag ; SrtC-1 <sub>17-228</sub>   |
| pACYCDuet RrgC_SrtC1                                 | H6-RrgC <sub>22-368</sub> ; SrtC-1   |
| pETDuet RrgA_RrgB + pACYCDuet SrtC-1                 | H6-RrgA <sub>39-868</sub> ; RrgB <sub>30-633</sub> -S-Tag ; SrtC-1 <sub>17-228</sub>                             |
| pETDuet RrgA + pACYCDuet RrgC_SrtC1                  | H6-RrgA <sub>39-868</sub> ; H6-RrgC <sub>22-368</sub> ; SrtC-1 <sub>17-228</sub>                                 |
| pETDuet RrgB + pACYCDuet RrgC_SrtC1                  | RrgB <sub>30-633</sub> -S-Tag ; H6-RrgC <sub>22-368</sub> ; SrtC-1 <sub>17-228</sub>                             |
| pETDuet RrgA_RrgB + pACYCDuet RrgC_SrtC1             | H6-RrgA <sub>39-868</sub> ; RrgB <sub>30-633</sub> -S-Tag ; H6-RrgC <sub>22-368</sub> ; SrtC-1 <sub>17-228</sub> |

**Table S3.** Summary of the peptides identified from the RrgB-RrgC complex by MS/MS.

MS/MS analysis of the RrgB-RrgC complex

| Observed | Mr (expt) | Mr (calc) | Delta | Start | Stop | Sequence                             | Identified protein |
|----------|-----------|-----------|-------|-------|------|--------------------------------------|--------------------|
| 521,75   | 1041,48   | 1041,48   | 0,00  | 243   | 251  | MTEGLAFNK                            | RrgB               |
| 523,79   | 1045,56   | 1045,56   | 0,00  | 129   | 138  | FNTANLPAAK                           | RrgB               |
| 555,75   | 1109,49   | 1109,49   | 0,00  | 42    | 51   | LLATDGDMDK                           | RrgB               |
| 556,79   | 1111,56   | 1111,56   | 0,00  | 199   | 208  | ANPDTPRVDK                           | RrgB               |
| 563,29   | 1124,57   | 1124,57   | 0,00  | 300   | 309  | ITYSATLNDK                           | RrgB               |
| 571,27   | 1140,52   | 1140,52   | 0,00  | 109   | 119  | LSGAMPATAMK                          | RrgB               |
| 588,82   | 1175,63   | 1175,63   | 0,00  | 580   | 590  | QPAGYALLTSR                          | RrgB               |
| 602,84   | 1203,67   | 1203,67   | 0,00  | 377   | 387  | VVQTVTLTTDK                          | RrgB               |
| 635,31   | 1268,61   | 1268,61   | 0,00  | 109   | 120  | LSGAMPATAMKK                         | RrgB               |
| 679,89   | 1357,76   | 1357,76   | 0,00  | 491   | 502  | QLVWTTKDALDR                         | RrgB               |
| 714,36   | 1426,71   | 1426,71   | 0,00  | 243   | 255  | MTEGLAFNKGTVK                        | RrgB               |
| 740,37   | 1478,73   | 1478,73   | 0,01  | 431   | 443  | DENPKPLDPTPEK                        | RrgB               |
| 744,92   | 1487,82   | 1487,82   | 0,00  | 485   | 497  | VSQEEKQLVWTTK                        | RrgB               |
| 747,37   | 1492,72   | 1492,72   | 0,00  | 52    | 65   | IANELETGNYAGNK                       | RrgB               |
| 831,92   | 1661,82   | 1661,82   | 0,00  | 228   | 242  | IPALANYATANWVSDR                     | RrgB               |
| 843,94   | 1685,86   | 1685,86   | 0,01  | 281   | 296  | LT DAGLAKVNDQNAEK                    | RrgB               |
| 923,49   | 1844,97   | 1844,96   | 0,00  | 121   | 138  | LTEAEGAKFNTANLPAAK                   | RrgB               |
| 958,47   | 1914,93   | 1914,92   | 0,00  | 410   | 427  | GYSADYQEITTAGELAVK                   | RrgB               |
| 644,37   | 1930,08   | 1930,07   | 0,00  | 481   | 497  | KADKVSQEEKQLVWTTK                    | RrgB               |
| 982,00   | 1961,98   | 1961,98   | 0,00  | 503   | 520  | AVAAYNALTAQQQTQ QEK                  | RrgB               |
| 987,54   | 1973,06   | 1973,06   | 0,00  | 120   | 138  | KLTEAEGAKFNTANLPAAK                  | RrgB               |
| 687,04   | 2058,10   | 2058,10   | 0,00  | 485   | 502  | VSQEEKQLVWTTKDALDR                   | RrgB               |
| 1032,53  | 2063,05   | 2063,04   | 0,01  | 461   | 480  | LAGAEFMANADNAGQYLAR                  | RrgB               |
| 1071,54  | 2141,07   | 2141,06   | 0,00  | 209   | 227  | DTPVNHQVGDVVEYEVTK                   | RrgB               |
| 1110,57  | 2219,12   | 2219,12   | 0,00  | 503   | 522  | AVAAYNALTAQQQTQ QEKEK                | RrgB               |
| 1166,14  | 2330,26   | 2330,25   | 0,01  | 163   | 183  | AVPIEIELPLNDVDAHVYPK                 | RrgB               |
| 1171,09  | 2340,16   | 2340,15   | 0,01  | 141   | 162  | IYEIHS LSTYVGEDGATLTGSK              | RrgB               |
| 781,75   | 2342,23   | 2342,22   | 0,01  | 52    | 74   | IANELETGNYAGNKVGLPANAK               | RrgB               |
| 828,76   | 2483,26   | 2483,25   | 0,00  | 206   | 227  | VDKDTPVNHQVGDVVEYEMTK                | RrgB               |
| 846,10   | 2532,27   | 2532,26   | 0,01  | 498   | 520  | DALDRAVAAYNALTAQQQTQ QEK             | RrgB               |
| 854,78   | 2561,31   | 2561,31   | 0,00  | 503   | 525  | AVAAYNALTAQQQTQ QEKEKVDK             | RrgB               |
| 861,09   | 2580,24   | 2580,23   | 0,01  | 591   | 615  | QKFEVTATSYSATGQGIEYTAGSGK            | RrgB               |
| 862,41   | 2584,20   | 2584,20   | 0,00  | 42    | 65   | LLATDGDMDKIANELETGNYAGNK             | RrgB               |
| 1306,66  | 2611,30   | 2611,29   | 0,01  | 256   | 280  | VTVDVVALEAGDYALTEVATGFDLK            | RrgB               |
| 1316,66  | 2631,31   | 2631,31   | 0,01  | 139   | 162  | YKIYEIHS LSTYVGEDGATLTGSK            | RrgB               |
| 1037,83  | 3110,48   | 3110,47   | 0,01  | 591   | 620  | QKFEVTATSYSATGQGIEYTAGSGKDDATK       | RrgB               |
| 1079,22  | 3234,62   | 3234,62   | 0,01  | 199   | 227  | ANPDTPRVDKDTPVNHQVGDVVEYEMTK         | RrgB               |
| 1127,92  | 3380,74   | 3380,72   | 0,02  | 256   | 288  | VTVDVVALEAGDYALTEVATGFDLKLT DAGLAK   | RrgB               |
| 1145,58  | 3433,71   | 3433,70   | 0,01  | 42    | 74   | LLATDGDMDKIANELETGNYAGNKVGLPANAK     | RrgB               |
| 983,77   | 3931,05   | 3931,04   | 0,01  | 555   | 590  | LVSDAQGRFEITGLLAGTYLLEETKQPAGYALLTSR | RrgB               |

| Observed | Mr (expt) | Mr (calc) | Delta | Start | Stop | Sequence                     | Identified protein |
|----------|-----------|-----------|-------|-------|------|------------------------------|--------------------|
| 470,73   | 939,44    | 939,44    | 0,00  | 190   | 198  | YSSSGQVGR                    | RrgC               |
| 538,29   | 1074,57   | 1074,57   | 0,00  | 181   | 189  | EVPLIGEYR                    | RrgC               |
| 572,26   | 1142,50   | 1142,50   | 0,00  | 72    | 80   | DLHSWDENK                    | RrgC               |
| 573,81   | 1145,61   | 1145,60   | 0,00  | 297   | 307  | EWVTS GKDGR                  | RrgC               |
| 607,30   | 1212,58   | 1212,58   | 0,00  | 269   | 279  | TNTSLQGAMFK                  | RrgC               |
| 624,75   | 1247,50   | 1247,49   | 0,00  | 57    | 66   | LDDSYSYDDR                   | RrgC               |
| 779,88   | 1557,75   | 1557,74   | 0,00  | 283   | 296  | EESGHYTPVLQNGK               | RrgC               |
| 817,43   | 1632,84   | 1632,84   | 0,00  | 176   | 189  | DVSEKEVPLIGEYR               | RrgC               |
| 853,42   | 1704,82   | 1704,81   | 0,01  | 72    | 85   | DLHSWDENKLS SFK              | RrgC               |
| 853,95   | 1705,88   | 1705,88   | 0,00  | 205   | 219  | NGEIFVTNPLPLGN YR            | RrgC               |
| 611,98   | 1832,91   | 1832,91   | 0,00  | 72    | 86   | DLHSWDENKLS SFFK             | RrgC               |
| 615,30   | 1842,88   | 1842,87   | 0,00  | 57    | 71   | LDDSYSYDDRQ MR               | RrgC               |
| 974,98   | 1947,94   | 1947,94   | 0,00  | 280   | 296  | VMKEESGHYTPVLQNGK            | RrgC               |
| 786,74   | 2357,19   | 2357,19   | 0,00  | 283   | 304  | EESGHYTPVLQNGKEVWTS GK       | RrgC               |
| 1214,63  | 2427,25   | 2427,24   | 0,01  | 199   | 219  | TLYTDKNGEIFVTNPLPLGN YR      | RrgC               |
| 896,12   | 2685,34   | 2685,34   | 0,00  | 283   | 307  | EESGHYTPVLQNGKEVWTS GKDGR    | RrgC               |
| 916,80   | 2747,38   | 2747,38   | 0,00  | 280   | 304  | VMKEESGHYTPVLQNGKEVWTS GK    | RrgC               |
| 755,62   | 3018,45   | 3018,44   | 0,01  | 87    | 111  | TSFBMTFLENQIEVSHIPNGLYYR     | RrgC               |
| 1026,19  | 3075,53   | 3075,53   | 0,01  | 280   | 307  | VMKEESGHYTPVLQNGKEVWTS GKDGR | RrgC               |