

1 Supplementary files

2 **Table S1:** Bifidobacterial LuxS homologues of found in publically available genome
3 databases with their corresponding locus tag and GI number.

| Strain | Locus tag | GI No. |
|--|------------------|---------------|
| <i>B. adolescentis</i> L2-32 | BIFADO_00782 | 154084812 |
| <i>B. angulatum</i> DSM 20098 (= JCM 7096) | BIFANG_03320 | 229784636 |
| <i>B. animalis</i> subsp. <i>lactis</i> AD011 | BLA_1115 | 219621246 |
| <i>B. animalis</i> subsp. <i>lactis</i> BB-12 | BIF_01888 | 384190872 |
| <i>B. animalis</i> subsp. <i>lactis</i> Bi-07 | W91_0606 | 386654775 |
| <i>B. animalis</i> subsp. <i>lactis</i> DSM 10140 | Balat_0582 | 240250585 |
| <i>B. breve</i> UCC2003 | Bbr_0541 | 476417675 |
| <i>B. bifidum</i> PRL2010 | BBPR_1341 | 310867022 |
| <i>B. bifidum</i> ATCC 29521 (= JCM 1255) | unassigned | 117574395 |
| <i>B. bifidum</i> NCIMB 41171 | BBNG_01295 | 313133130 |
| <i>B. bifidum</i> S17 | BBIF_1299 | 310287820 |
| <i>B. breve</i> ACS-071-V-Sch8b | HMPREF9228_1355 | 333109577 |
| <i>B. breve</i> DSM 20213 = JCM 1192 | BIFBRE_03448 | 291381520 |
| <i>B. dentium</i> ATCC 27678 | BIFDEN_00080 | 171276628 |
| <i>B. dentium</i> ATCC 27679 | HMPREF0168_1301 | 304553073 |
| <i>B. dentium</i> JCVIHMP022 | HMPREF9003_0698 | 308220660 |
| <i>B. dentium</i> Bd1 | BDP_0675 | 283102232 |
| <i>B. catenulatum</i> DSM 16992 (= JCM 1194) | BIFCAT_01757 | 212660103 |
| <i>B. pseudocatenulatum</i> DSM 20438 (= JCM 1200) | BIFPSEUDO_02401 | 225158283 |
| <i>B. gallicum</i> DSM 20093 | BIFGAL_03594 | 270276714 |
| <i>B. longum</i> subsp. <i>infantis</i> CCUG 52486 | BLIG_00145 | 239514329 |
| <i>B. longum</i> subsp. <i>longum</i> ATCC 55813 | HMPREF0175_0753 | 227213310 |
| <i>B. longum</i> subsp. <i>longum</i> BBMN68 | unassigned | 312133179 |
| <i>B. longum</i> DJO10A | BLD_0910 | 189428208 |
| <i>B. longum</i> subsp. <i>longum</i> 44B | HMPREF1312_0146 | 386417703 |
| <i>B. longum</i> subsp. <i>longum</i> 2-2B | HMPREF1315_1080 | 386411300 |
| <i>B. longum</i> subsp. <i>longum</i> 35B | HMPREF1314_1056 | 386408262 |
| <i>B. longum</i> subsp. <i>longum</i> 1-6B | HMPREF1313_0335 | 386407207 |
| <i>B. longum</i> NCC2705 | BL1152 | 23326400 |
| <i>B. longum</i> subsp. <i>longum</i> F8 | BIL_13850 | 479136053 |