**Supplementary File S2: List of 66 pathogens harboring proteins with SPFH2a domain taking *B. subtilis* as reference.**

**(A)** Name of organism with the code and length protein. **(B)** SPFH2a domain alignment of all pathogens with *B. subtilis* SPFH2a as a reference. Red indicates the similarity; Blue indicates mismatch.

|  |  |  |  |
| --- | --- | --- | --- |
| **Sequence No.** | **Species name** | **Protein code** | **Length of protein (No. of amino acids)** |
| **1** | *Bacillus subtilis* | bsu\_BSU31010  | 509 |
| **2** | *Enterococcus faecalis* | efu\_HMPREF0351\_11186  | 499 |
| **3** | *Bacillus cereus* | bcer\_BCK\_05360  | 526 |
| **4** | *Bacillus cereus biovar anthracis CI* | bal\_BACI\_c05650  | 524 |
| **5** | *Bacillus cereus F837/76* | bcf\_bcf\_02870  | 524 |
| **6** | *Bacillus cereus AH187* | bcr\_BCAH187\_A0686  | 524 |
| **7** | *Bacillus cereus 03BB102* | bcx\_BCA\_0593  | 524 |
| **8** | *Bacillus cereus NC7401* | bnc\_BCN\_0534  | 524 |
| **9** | *Bacillus thuringiensis Al Hakam* | btl\_BALH\_0497  | 524 |
| **10** | *Bacillus cereus AH820* | bcu\_BCAH820\_0613  | 526 |
| **11** | *Bacillus anthracis HYU01* | banh\_HYU01\_03035  | 526 |
| **12** | *Bacillus anthracis SVA11* | bans\_BAPAT\_0534  | 526 |
| **13** | *Bacillus cereus B4264* | bcb\_BCB4264\_A0593  | 524 |
| **14** | *Bacillus cereus ZK* | bcz\_BCZK0468  | 524 |
| **15** | *Bacillus thuringiensis serovar kurstaki HD-1* | bthi\_BTK\_03170  | 524 |
| **16** | *Bacillus thuringiensis serovar kurstaki YBT-1520* | bthr\_YBT1520\_03085  | 524 |
| **17** | *Bacillus thuringiensis 97-27* | btk\_BT9727\_0468  | 524 |
| **18** | *Bacillus thuringiensis serovar kurstaki HD73* | btt\_HD73\_0627  | 524 |
| **19** | *Bacillus anthracis CDC 684* | bah\_BAMEG\_4029  | 526 |
| **20** | *Bacillus anthracis A0248* | bai\_BAA\_0639  | 526 |
| **21** | *Bacillus anthracis Ames* | ban\_BA\_0557  | 526 |
| **22** | *Bacillus anthracis A16R* | banr\_A16R\_06230  | 526 |
| **23** | *Bacillus anthracis A16* | bant\_A16\_06140  | 526 |
| **24** | *Bacillus anthracis Vollum* | banv\_DJ46\_5015  | 526 |
| **25** | *Bacillus anthracis Ames 0581* | bar\_GBAA\_0557  | 526 |
| **26** | *Bacillus anthracis Sterne* | bat\_BAS0525  | 526 |
| **27** | *Bacillus anthracis H9401* | bax\_H9401\_0528  | 526 |
| **28** | *Bacillus cereus ATCC 14579* | bce\_BC0558  | 524 |
| **29** | *Bacillus thuringiensis BMB171* | btb\_BMB171\_C0477  | 524 |
| **30** | *Bacillus cereus G9842* | bcg\_BCG9842\_B4746  | 524 |
| **31** | *Bacillus thuringiensis HD-771* | bti\_BTG\_18385  | 524 |
| **32** | *Bacillus thuringiensis HD-789* | btn\_BTF1\_00495  | 524 |
| **33** | *Streptococcus sanguinis* | ssa\_SSA\_0617  | 492 |
| **34** | *Streptococcus suis 05ZYH33* | ssu\_SSU05\_1456  | 489 |
| **35** | *Streptococcus suis 98HAH33* | ssv\_SSU98\_1469  | 489 |
| **36** | *Tsukamurella paurometabola* | tpr\_Tpau\_2287  | 467 |
| **37** | *Bacteroides fragilis YCH46* | bfr\_BF0921  | 541 |
| **38** | *Gordonia bronchialis* | gbr\_Gbro\_0503  | 370 |
| **39** | *Salmonella enterica subsp. enterica serovar Typhimurium T000240* | sem\_STMDT12\_C32570  | 559 |
| **40** | *Salmonella enterica subsp. enterica serovar Typhimurium D23580* | sev\_STMMW\_31601  | 559 |
| **41** | *Salmonella enterica subsp. enterica serovar Typhimurium LT2* | stm\_STM3199  | 559 |
| **42** | *Escherichia coli E24377A (ETEC)* | ecw\_EcE24377A\_3514  | 553 |
| **43** | *Shigella sonnei 53G* | ssj\_SSON53\_18640  | 553 |
| **44** | *Salmonella enterica subsp. enterica serovar Typhi Ty2* | stt\_t3119  | 559 |
| **45** | *Salmonella enterica subsp. enterica serovar Typhi CT18* | sty\_STY3378  | 559 |
| **46** | *Shigella boydii CDC 3083-94* | sbc\_SbBS512\_E3482  | 542 |
| **47** | *Escherichia coli O78:H11:K80 H10407 (ETEC)* | elh\_ETEC\_3322  | 553 |
| **48** | *Escherichia coli O157:H7 EDL933 (EHEC)* | ece\_Z4403  | 553 |
| **49** | *Escherichia coli O157:H7 Sakai (EHEC)* | ecs\_ECs3933  | 553 |
| **50** | *Escherichia coli O157:H7 Xuzhou21 (EHEC)* | elx\_CDCO157\_3674  | 553 |
| **51** | *Escherichia coli O157:H7 EC4115 (EHEC)* | ecf\_ECH74115\_4360  | 553 |
| **52** | *Escherichia coli O127:H6 E2348/69 (EPEC)* | ecg\_E2348C\_3344  | 553 |
| **53** | *Escherichia coli O157:H7 TW14359 (EHEC)* | etw\_ECSP\_4024  | 553 |
| **54** | *Escherichia coli ABU 83972* | eab\_ECABU\_c34680  | 553 |
| **55** | *Escherichia coli O6:K2:H1 CFT073 (UPEC)* | ecc\_c3799  | 553 |
| **56** | *Escherichia coli O18:K1:H7 UTI89 (UPEC)* | eci\_UTI89\_C3487  | 553 |
| **57** | *Helicobacter cinaedi ATCC BAA-847* | hcb\_HCBAA847\_1695  | 466 |
| **58** | *Helicobacter cinaedi PAGU611* | hcp\_HCN\_1480  | 319 |
| **59** | *Brucella abortus 9-941* | bmb\_BruAb2\_0075  | 328 |
| **60** | *Brucella melitensis bv. 1 16M* | bme\_BMEII0019  | 328 |
| **61** | *Clostridium perfringens 13* | cpe\_CPE1060  | 316 |
| **62** | *Clostridium perfringens SM101* | cpr\_CPR\_1132  | 316 |
| **63** | *Clostridium perfringens ATCC 13124* | cpf\_CPF\_1316  | 316 |
| **64** | *Clostridium tetani E88* | ctc\_CTC00681  | 313 |
| **65** | *Clostridium botulinum A ATCC 3502* | cbo\_CBO0539  | 331 |
| **66** | *Lactococcus garvieae ATCC 49156* | lgr\_LCGT\_1499  | 297 |
| **67** | *Lactococcus garvieae Lg2* | lgv\_LCGL\_1521  | 297 |

**(B)**

