

**Table S1. Comparison of genome parameters for *B. distasonis* ATCC 8503, *B. vulgatus* ATCC 8482, *B. thetaiotaomicron* ATCC 29148, *B. fragilis* NCTC 9343 and *B. fragilis* YCH 46.**

Feature	<i>B. distasonis</i> ATCC 8503	<i>B. vulgatus</i> ATCC 8482	<i>B. thetaiotaomicron</i> ATCC 29148	<i>B. fragilis</i> NCTC 9343	<i>B. fragilis</i> YCH 46
Genome size (bp)	<b>4,811,379</b>	<b>5,163,189</b>	6,260,361	5,205,140	5,277,274
G + C (%)	<b>45.1</b>	<b>42.2</b>	42.8	43.2	43.3
Protein coding (%)	<b>90.3</b>	<b>89.1</b>	89.5	89.3	90.1
Gene density (no. of CDS per Kb)	<b>0.804</b>	<b>0.792</b>	0.763	0.818	0.867
Average CDS length (bp)	<b>1,123</b>	<b>1,126</b>	1,173	1,091	1,039
Protein-coding genes (no.)	<b>3,867</b>	<b>4,088</b>	4,778	4,189	4,578
CDS with functional assignment	<b>2,427</b>	<b>2,505</b>	2,709	2,753	2,959
CDS without functional assignment	<b>1,440</b>	<b>1,583</b>	2,069	1,436	1,619
conserved hypothetical protein	<b>1,005</b>	<b>1,123</b>	1,532	858	950
hypothetical protein	<b>435</b>	<b>460</b>	537	578	669
Ribosomal RNA loci	<b>7</b>	<b>7</b>	5	6	6
Transfer RNAs	<b>83</b>	<b>85</b>	71	73	74
Conjugative transposons	<b>1</b>	<b>4</b>	4	2	2
Transposases	<b>61</b>	<b>121</b>	109	47	60
Phages	<b>5</b>	<b>3</b>	5	2	4
Glycoside hydrolases (GH)	<b>97</b>	<b>159</b>	226	126	132
Polysaccharide lyases (PL)	<b>0</b>	<b>7</b>	15	1	1
Glycosyltransferases (GT)	<b>78</b>	<b>76</b>	85	79	81
SusC homologs*	<b>63 (60)</b>	<b>89 (86)</b>	107 (107)	88 (88)	77 (77)
SusD homologs*	<b>48 (54)</b>	<b>74 (80)</b>	57 (102)	48 (71)	47 (65)
ECF- $\sigma$ factors	<b>36</b>	<b>41</b>	50	42	41
Anti- $\sigma$ factors	<b>23</b>	<b>21</b>	25	25	25
Hybrid two-component systems	<b>7</b>	<b>22</b>	32	14	12

**Legend:** ‘\*’, the numbers of SusC/SusD homologs provided are based on BLASTP e-value  $\leq 10^{-20}$ ; the numbers shown in parentheses are based on criteria described in SusC/SusD alignments in **Materials and Methods**. See <http://gordonlab.wustl.edu/BvBd.html> for complete lists of SusC/SusD homologs. A hybrid two-component system protein contains all of the domains present in classical two-component systems but in one polypeptide (Xu, *et al*, Science 299:2074-6, 2003).