

Supplementary Table S1. Genomes of *Bifidobacterium* strains available in the GenBank database (<http://www.ncbi.nih.gov/genbank>) used for the *in silico* analysis of *eps* clusters. Strains marked with an asterisk were selected to represent physical maps of their *eps* clusters.

Species	Strain	Genome Accession No.	<i>eps</i> cluster			G+C content (%)		Priming-GTF ^c		Reference
			Length (bp) ^a	No. genes	No. ME ^b	Genome	<i>eps</i>	<i>cpsD</i>	<i>rfbP</i>	
<i>B. adolescentis</i>	ATCC15703*	AP009256	19,467	17	0	59.2	55.3	BAD_1389	-	DS ^d
<i>B. animalis</i> subsp. <i>lactis</i>	DSM10140*	CP001606	54,249	42	1	60.5	53.5	Balat_1392	Balat_1371	(1)
	B1-04	CP001515	54,249	42	1	60.5	53.5	Balac_1392	Balac_1371	(1)
	AD011	CP001213	54,248	34	1	60.5	53.5	BLA_0595	BLA_0576	(2)
	BB-12	CP001853	54,215	41	1	60.5	53.5	BIF_00944	BIF_00983	(3)
	V9	CP001892	54,249	42	1	60.5	53.5	BalV_1349	BalV_1328	(4)
	BLC1	CP003039	54,250	41	1	60.5	53.5	BLC1_1349	BLC1_1328	(5)
	CNCM I-2494	CP002915	54,236	41	1	60.5	53.5	BALAC2494_01344	BALAC2494_01362	(6)
	Bi-07	CP003498	54,249	36	1	60.5	53.5	W91_1429	W91_1409	(7)
	B420	CP003497	54,248	37	1	60.5	53.5	W7Y_1394	W7Y_1374	(7)
<i>B. animalis</i> subsp. <i>animalis</i>	ATCC25527*	CP002567	54,307	32	8	60.5	56.1	BANAN_06765	-	(8)
<i>B. asteroides</i>	PRL2011*	CP003325	13,454	12	0	60.1	49.1	-	BAST_1667	(9)
<i>B. bifidum</i>	PRL2010	CP001840	-	-	-	62.7	-	-	-	(10)
	S17	CP002220	1,116	1	-	62.8	-	-	BBIF_0393	(11)
	BGN4	CP001361	-	-	-	62.4	-	-	-	(12)
<i>B. breve</i>	ACS-071-V-Sch8b	CP002743	15,174	10	1	58.7	51.5	-	HMPREF9228_0447	DS
	UCC2003*	CP000303	31,430	20	6	58.7	52.5	-	Bbr_0430	(13)
<i>B. dentium</i>	Bd1*	CP001750	58,993	49	0	58.5	52.0	-	BDP_1857	(14)
<i>B. longum</i> subsp. <i>infantis</i>	ATCC15697*	CP001095	19,310	13	5	59.9	51.4	-	Blon_2114	(15)
	157F	AP010890	1,719	1	-	60.1	57.7	-	BLIF_0362	(16)
<i>B. longum</i> subsp. <i>longum</i>	NCC2705*	AE014295	34,379	15	6	60.1	55.4	BL0237	BL0249	(17)

	DJ010A	CP000605	-	-	-	60.1	-	-	-	(18)
	F8	FP929034	17,580	10	3	59.9	50.8	-	BIL_15040	DS
	JDM301	CP002010	-	-	-	59.8	-	-	-	(19)
	JCM 1217	AP010888	10,265	6	1	60.3	56.3	BLLJ_0364	-	(16)
	KACC 91563	CP002794	20,193	14	4	59.8	50.7	-	BLNIAS_02272	(20)
	BBMN68	CP002286	14,316	11	0	59.9	45.9	BBMN68_1012	-	(21)
<i>B. thermophilum</i>	RBL67*	CP004346	27,116	20	3	60.1	52.9	-	D805_0348	DS

^a The hyphen (-) indicates the absence of the *priming-GTF* and therefore the absence of *eps*-cluster

^b ME, Mobile Elements (transposase)

^c Location of the priming-glycosyltransferase in the corresponding bifidobacterial genome

^d DS, Direct Submission

List of references

1. **Barrangou R, Briczinski EP, Traeger LL, Loquasto JR, Richards M, Horvath P, Coûté-Monvoisin AC, Leyer G, Rendulic S, Steele JL, Broadbent JR, Oberg T, Dudley EG, Schuster S, Romero DA, Roberts RF.** 2009. Comparison of the complete genome sequences of *Bifidobacterium animalis* subsp. *lactis* DSM10140 and BI-04. *J Bacteriol* **191**:4144-4151.
2. **Kim JF, Jeong H, Yu DS, Choi SH, Hur CG, Park MS, Yoon SH, Kim DW, Ji GE, Park HS, Oh TK.** 2009. Genome sequence of the probiotic bacterium *Bifidobacterium animalis* subsp. *lactis* AD011. *J Bacteriol* **191**:678-379.
3. **Garrigues C, Johansen E, Pedersen MB.** 2010. Complete genome sequence of *Bifidobacterium animalis* subsp. *lactis* Bb12, a widely consumed probiotic strain. *J Bacteriol* **192**:2467-2468.
4. **Sun Z, Chen X, Wang J, Gao P, Zhou Z, Ren Y, Sun T, Wang L, Meng H, Chen W, Zhang H.** 2010. Complete genome sequence of probiotic *Bifidobacterium animalis* subsp. *lactis* V9. *J Bacteriol* **192**:4080-4081.
5. **Bottacini F, Dal Bello F, Turroni F, Milani C, Duranti S, Foroni E, Viappiani A, Strati F, Mora D, van Sinderen D, Ventura M.** 2011. Complete genome sequence of *Bifidobacterium animalis* subsp. *lactis* BLC1. *J Bacteriol* **193**:6387-6388.
6. **Chervaux C, Grimaldi C, Bolotin A, Quinquis B, Legrain-Raspaud S, van Hylckama-Vlieg JE, Denariáz G, Smokvina T.** 2011. Genome sequence of the probiotic strain *Bifidobacterium animalis* subsp. *lactis* CNCM I-2494. *J Bacteriol* **193**:5560-5561.
7. **Stahl B, Barrangou R.** 2012. Complete genome sequences of probiotic strains *Bifidobacterium animalis* subsp. *lactis* B420 and Bi-07. *J Bacteriol* **194**:4131-4132.
8. **Loquasto JR, Barrangou R, Dudley EG, Roberts RF.** 2011. Short communication: the complete genome sequence of *Bifidobacterium animalis* subspecies *animalis* ATCC 25527(T) and comparative analysis of growth in milk with *B. animalis* subspecies *lactis* DSM 10140(T). *J Dairy Sci* **94**:5864-70.
9. **Bottacini F, Milani C, Turroni F, Sánchez B, Foroni E, Duranti S, Serafini F, Viappiani A, Strati F, Ferrarini A, Delledonne M, Henrissat B, Coutinho P, Fitzgerald GF, Margolles A, van Sinderen D, Ventura M.** 2012. *Bifidobacterium asteroides* PRL2011 genome analysis reveals clues for colonization of the insect gut. *PLoS ONE* **7**:e44229.
10. **Turroni F, Bottacini F, Foroni E, Mulder I, Kim JH, Zomer A, Sánchez B, Bidossi A, Ferrarini A, Giubellini V, Delledonne M, Henrissat B, Coutinho P, Oggioni M, Fitzgerald GF, Mills D, Margolles A, Kelly D, van Sinderen D, Ventura M.** 2010. Genome analysis of *Bifidobacterium bifidum* PRL2010 reveals metabolic pathways for host-derived glycan foraging. *Proc. Natl. Acad. Sci. USA* **107**:19514-19519.
11. **Zhurina D, Zomer A, Gleinser M, Brancaccio VF, Auchter M, Waidmann MS, Westermann C, van Sinderen D, Riedel CU.** 2011. Complete genome sequence of *Bifidobacterium bifidum* S17. *J Bacteriol* **193**:301-302.
12. **Yu DS, Jeong H, Lee DH, Kwon SK, Song JY, Kim BK, Park MS, Ji GE, Oh TK, Kim JF.** 2012. Complete genome sequence of the probiotic bacterium *Bifidobacterium bifidum* strain BGN4. *J Bacteriol* **194**:4757-4758.
13. **Motherway MO, Zomer A, Leahy SC, Reunanen J, Bottacini F, Claesson MJ, O'Brien F, Flynn K, Casey PG, Munoz JAM, Kearney B, Houston AM, O'Mahont C, Higgins DG, Shanahan F, Palva A, de Vos WM, Fitzgerald GF,**

- Ventura M, O'Toole PW, van Sinderen D.** 2011. Functional genome analysis of *Bifidobacterium breve* UCC2003 reveals type IVb tight adherence (Tad) pili as an essential and conserved host colonization factor. Proc. Natl. Acad. Sci. USA **108**:11217-11222.
14. **Ventura M, Turrone F, Zomer A, Foroni E, Giubellini V, Bottacini F, Canchaya C, Claesson MJ, He F, Mantzourani M, Mulas L, Ferrarini A, Gao B, Delle Donne M, Henrissat B, Coutinho P, Oggioni M, Gupta RS, Zhang Z, Beighton D, Fitzgerald GF, O'Toole PW, van Sinderen D.** 2009. The *Bifidobacterium dentium* Bd1 genome sequence reflects its genetic adaptation to the human oral cavity. PLoS Genet **5**:e1000785.
 15. **Sela DA, Champman J, Adeuya A; Kim JH, Chen F, Whitehead TR, Lapidus A, Rokhsar DS, Lebrilla CB, German JB, Price NP, Richardson PM, Mills DA.** 2008. The genome sequence of *Bifidobacterium longum* subsp. *infantis* reveals adaptations for milk utilization within the infant microbiome. Proc. Natl. Acad. Sci. USA **105**:18964-18969.
 16. **Fukuda S, Toh H, Hase K, Oshima K, Nakanishi Y, Yoshimura K, Tobe T, Clarke JM, Topping DL, Suzuki T, Taylor TD, Itoh K, Kikuchi J, Morita H, Hattori M, Ohno H.** 2011. Bifidobacteria can protect from enteropathogenic infection through production of acetate. Nature **469**:543-547.
 17. **Schell MA, Karmirantzou M, Snel B, Vilanova D, Berger B, Pessi G, Zwahlen MC, Desiere F, Bork P, Delley M, Pridmore D, Arigoni F.** 2002. The genome sequence of *Bifidobacterium longum* reflects its adaptation to the human gastrointestinal tract. Proc. Natl. Acad. Sci. USA. **99**:14422-14427.
 18. **Lee JH, Karamychev VN, Kozyavkin SA, Mills D, Pavlov AR, Pavlova NV, Polouchine NN, Richardson PM, Shakahova VV, Slesarev AI, Weimer B, O'Sullivan DJ.** 2008. Comparative genomic analysis of the gut bacterium *Bifidobacterium longum* reveals loci susceptible to deletion during pure culture growth. BMC Genomics **9**:247.
 19. **Wei YX, Zhang ZY, Liu C, Zhu YZ, Zhu YQ, Zheng H, Zhao GP, Wang S, Guo XK.** 2011. Complete genome sequence of *Bifidobacterium longum* JDM301. J Bacteriol **192**:4076-4077.
 20. **Ham JS, Lee T, Byun MJ, Lee KT, Lim MK, Han GS, Jeong SG, Oh MH, Kim DH, Kim H.** 2011. Complete genome sequence of *Bifidobacterium longum* subsp. *longum* KACC91563. J Bacteriol **193**:5044.
 21. **Hao Y, Huang D, Guo H, Xiao M, An H, Zhao L, Zuo F, Zhang B, Hu S, Song S, Chen S, Ren F.** 2011. Complete genome sequence of *Bifidobacterium longum* subsp. *longum* BBMN68, a new strain from a healthy chinese centenarian. J Bacteriol **193**:787-788.

Supplementary Fig. S1. Physical maps of the putative exopolysaccharide (*eps*)-gene clusters from five *Bifidobacterium longum* subsp. *longum* strains. The genes were categorised according to their potential function as indicated in box-legend.

