

Additional file 2. In-depth comparison of BoNT /G and /B subtypes

(S-2)

		Percent Identity																							
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
Percent Difference	1	█	58.1	58.3	58.1	58.3	58.2	58.8	58.8	58.8	58.5	58.8	58.8	58.9	58.4	58.3	58.3	58.4	58.7	58.4	58.4	58.6	57.6	58.6	CAA52275 /G strain 89 ¹
	2	60.5	█	99.3	99.3	99.3	99.5	95.3	95.4	95.3	95.4	95.1	95.3	95.3	95.6	93.1	92.7	93.3	96.2	96.1	96.2	96.4	92.6	96.1	ABM73973 /B1 CDC 1656
	3	60.1	0.7	█	99.5	100	99.8	95.7	95.7	95.7	95.7	95.5	95.7	95.7	96.0	93.3	92.9	93.4	96.2	96.0	96.1	96.4	92.8	96.1	AAA23211 /B1 strain
	4	60.5	0.7	0.5	█	99.5	99.8	95.5	95.6	95.5	95.6	95.4	95.5	95.5	96.0	93.3	93.0	93.5	96.1	96.4	96.2	96.3	92.9	96.0	ABM73976 /B1 Hall 6517
	5	60.1	0.7	0.0	0.5	█	99.8	96.7	96.7	96.7	96.7	96.6	95.7	95.7	96.0	93.3	92.9	93.4	96.2	96.0	96.1	96.4	92.8	96.1	BAE48264 /B1 Okra
	6	60.3	0.5	0.2	0.2	0.2	█	95.7	95.8	95.7	95.8	95.6	95.7	95.7	96.0	93.4	93.0	93.6	96.4	96.3	96.4	96.5	93.0	96.3	ABM73983 /B1 CDC 1758
	7	59.0	4.9	4.5	4.6	4.5	4.4	█	99.9	99.8	98.9	99.6	99.8	99.8	98.5	93.9	93.3	94.2	95.4	95.1	95.2	95.4	93.0	95.4	ABM73972 /B2 ATCC 7949 ²
	8	59.0	4.8	4.4	4.6	4.4	4.3	0.1	█	99.9	99.0	99.7	99.9	99.9	98.5	94.0	93.3	94.3	95.4	95.1	95.2	95.4	93.0	95.4	ABM73975 /B2 Smith L-590 ²
	9	59.1	4.9	4.5	4.6	4.5	4.4	0.2	0.1	█	98.9	99.6	100	99.8	98.5	94.0	93.3	94.3	95.4	95.0	95.1	95.4	93.0	95.3	BAC22064 /B2 strain ²
	10	59.6	4.8	4.5	4.6	4.5	4.3	1.1	1.0	1.1	█	98.7	98.9	98.9	98.3	94.0	93.3	94.3	95.4	95.1	95.2	95.4	93.0	95.4	ABM73978 /B2 6291
	11	59.1	5.1	4.6	4.8	4.6	4.6	0.4	0.3	0.4	1.3	█	99.6	99.6	98.2	93.8	93.2	94.1	95.3	95.0	95.0	95.3	92.9	95.2	ABM73988 /B2 CDC1828 ²
	12	59.1	4.9	4.5	4.6	4.5	4.4	0.2	0.1	0.0	1.1	0.4	█	99.8	98.5	94.0	93.3	94.3	95.4	95.0	95.1	95.4	93.0	95.3	ABM73984 /B2 Prevot 59 ²
	13	58.8	4.9	4.5	4.6	4.5	4.4	0.2	0.1	0.2	1.1	0.4	0.2	█	98.5	93.9	93.3	94.2	95.4	95.0	95.1	95.4	93.0	95.3	ABM73985 /B2 Prevot 25 NCASE ¹
	14	59.8	4.6	4.1	4.1	4.1	4.1	1.6	1.5	1.5	1.7	1.8	1.6	1.6	█	93.7	93.2	94.0	95.7	95.6	95.5	95.7	93.0	95.7	ABM73977 /B3 CDC 795
	15	60.1	7.2	7.1	7.0	7.1	6.9	6.4	6.3	6.3	6.3	6.5	6.3	6.4	6.6	█	98.8	99.1	93.0	98.9	92.8	93.0	98.8	92.9	ABM73987 /npB Eklund 17B
	16	60.1	7.7	7.5	7.4	7.5	7.3	7.1	7.0	7.0	7.0	7.2	7.0	7.1	7.2	1.3	█	98.4	92.4	92.5	92.4	92.4	97.5	92.3	ABM73979 /npB 10068
	17	59.8	7.1	6.9	6.8	6.9	6.7	6.1	6.0	6.0	6.0	6.1	6.0	6.1	6.2	0.9	1.6	█	93.0	93.0	92.9	93.0	97.9	93.0	ABM73971 /npB ATCC 17844
	18	59.3	3.9	3.9	4.0	3.9	3.7	4.7	4.7	4.8	4.7	4.9	4.8	4.8	4.4	7.4	8.0	7.3	█	99.5	99.7	99.8	92.4	99.9	ABM73986 /BivBa Ba207 ³
	19	59.8	4.0	4.1	3.7	4.1	3.8	5.1	5.1	5.1	5.1	5.2	5.1	5.1	4.6	7.5	7.9	7.4	0.5	█	99.8	99.3	92.3	99.4	AAK97132 /BivB strain 1436
	20	59.8	3.9	4.0	3.1	4.0	3.7	5.0	5.0	5.1	5.0	5.1	5.1	5.1	4.6	7.6	8.0	7.5	0.3	0.2	█	99.5	92.3	99.6	ABM73974 /BivBf Bf258
	21	59.5	3.7	3.7	3.8	3.7	3.6	4.7	4.7	4.8	4.7	4.9	4.8	4.8	4.4	7.4	8.0	7.3	0.2	0.7	0.5	█	92.4	99.8	AAL11499 /BivB Cryptic neurotoxin
	22	61.6	7.8	7.6	7.5	7.6	7.4	7.4	7.3	7.3	7.6	7.5	7.3	7.4	7.4	1.3	2.5	2.1	8.0	8.1	8.2	8.0	█	92.3	CAA50482 /npB Eklund 17B-ATCC25765 ⁴
	23	59.5	4.0	4.0	4.1	4.0	3.8	4.8	4.8	4.9	4.8	5.0	4.9	4.9	4.5	7.5	8.1	7.4	0.1	0.6	0.4	0.2	8.1	█	CAA73968 /BivBf CDC3281- ATCC4375

¹ Indicates the sequences that are the most similar
² 2nd most similar to /G
³ 3rd most similar to /G
⁴ Sequences that are the least similar to /G