

Study 1					Study 2				
Volunteer	Ingredient	D0 t0	D0 t3h	$\Delta\log$	Volunteer	Ingredient	D0 t0	D0 t5h	$\Delta\log$
GT052	PHY	530	240	-0.3	GT052	CHX	341	1	-2.4
GT052	CHX	1130	3	-2.6	GT052	PHY	118	241	0.3
GT053	PHY	164	72	-0.4	GT053	CHX	369	1	-2.4
GT053	CHX	405	4	-2.0	GT053	PHY	305	76	-0.6
GT055	PHY	1548	879	-0.2	GT054	CHX	28656	1270	-1.4
GT055	CHX	1437	140	-1.0	GT054	PHY	27576	8928	-0.5
GT056	PHY	8820	3564	-0.4	GT055	CHX	1493	39	-1.6
GT056	CHX	11952	1	-3.9	GT055	PHY	348	639	0.3
GT057	PHY	263	236	0.0	GT056	CHX	7416	7	-3.0
GT057	CHX	65	1	-1.7	GT056	PHY	3168	977	-0.5
GT058	PHY	2232	879	-0.4	GT058	CHX	192	1	-2.1
GT058	CHX	497	3	-2.2	GT058	PHY	46	59	0.1

**Table S1** Bacterial densities (CFU/cm<sup>2</sup>) measured on the neck in the 6 volunteers, at the initial sampling time (D0 t0) and after 3 h (D0 t3h, Study 1) or 5 h (D0 t5h, Study 2), after a single topical application of physiological saline (PHY) or chlorhexidine (CHX).  $\Delta\log = \log (\text{D0 t3h}) - \log (\text{D0 t0})$  or  $\Delta\log = \log (\text{D0 t5h}) - \log (\text{D0 t0})$

Volunteer	Study	Left	Right	Mean	Lateralization factor
GT052	1	530	1130	830	2.1
GT053	1	164	405	285	2.5
GT055	1	1548	1437	1493	1.1
GT056	1	8820	11952	10386	1.4
GT057	1	263	65	164	4.0
GT058	1	2232	497	1365	4.5
GT052	2	341	118	230	2.9
GT053	2	369	305	337	1.2
GT054	2	28656	27576	28116	1.0
GT055	2	1493	348	921	4.3
GT056	2	7146	3168	5157	2.3
GT058	2	192	46	119	4.2
GT055	3	2146	230	1188	<b><u>9.3</u></b>
GT056	3	17138	7178	12158	2.4
GT058	3	119	230	175	1.9
GT060	3	10841	11914	11378	1.1
GT061	3	8695	1047	4871	<b><u>8.3</u></b>
GT062	3	518	2923	1721	5.6
GT063	3	372	230	301	1.6
GT052	4	1391	1563	1477	1.1
GT053	4	789	165	477	4.8
GT055	4	559	3959	2259	<b><u>7.1</u></b>
GT056	4	4662	8732	6697	1.9
GT064	4	6919	2035	4477	3.4

**Table S2** Compiled bacterial density values (CFU/cm<sup>2</sup>) recorded in studies 1 to 4 at the initial sampling time (D0 t0) for samples harvested on the right or left side of the neck. The lateralization factor is the ratio between the highest and the lowest bacterial densities measured, between the left and right sides.

Study	Volunteer	Treatment	D0 t0	D0 t5h	Ratio D0 t5h/D0 t0	Δlog
3	GT056	Physiological saline	17138	1	0.0	-4.1
3	GT063	Physiological saline	372	489	1.3	0.1
3	GT060	Physiological saline	10841	9805	0.9	0.0
3	GT062	Physiological saline	518	275	0.5	-0.3
3	GT061	Physiological saline	8695	3589	0.4	-0.4
3	GT055	Physiological saline	2146	746	0.3	-0.5
3	GT058	Physiological saline	119	131	1.1	0.0
						<b>Mean -0.7</b>
3	GT056	Chlorhexidine	7178	7	0.0	-3.0
3	GT063	Chlorhexidine	230	3	0.0	-1.9
3	GT060	Chlorhexidine	11914	193	0.0	-1.8
3	GT062	Chlorhexidine	2923	12	0.0	-2.4
3	GT061	Chlorhexidine	1047	13	0.0	-1.9
3	GT055	Chlorhexidine	230	37	0.2	-0.8
3	GT058	Chlorhexidine	230	1	0.0	-2.2
						<b>Mean -2.0</b>
4	GT052	Physiological saline	1563	576	0.4	-0.4
4	GT053	Physiological saline	165	206	1.2	0.1
4	GT055	Physiological saline	3959	5143	1.3	0.1
4	GT056	Physiological saline	8732	3330	0.4	-0.4
4	GT064	Physiological saline	2035	1822	0.9	0.0
						<b>Mean -0.1</b>
4	GT052	Chlorhexidine	1391	158	0.1	-0.9
4	GT053	Chlorhexidine	789	10	0.0	-1.9
4	GT055	Chlorhexidine	559	1517	<u>2.7</u>	0.4
4	GT056	Chlorhexidine	4662	3	0.0	-3.2
4	GT064	Chlorhexidine	6919	28	0.0	-2.4
						<b>Mean -1.6</b>

**Table S3** Compiled bacterial density values (CFU/cm<sup>2</sup>) for studies 3 and 4 at the initial sampling time (D0 t0) and the short-term sampling time (D0 t5h) after topical application of physiological saline or chlorhexidine. The Δlog value was calculated as log (D0 t0) – log (D0 t5h).

Study 3								
Volunteer	Side	Ingredient	D0 t0	D0 t5h	D1	D2	D3	D7
GT056	Left	PHY	17138	1	6623	7770	7844	5254
	Right	CHX	7178	7	243	131	1147	1018
GT063	Left	PHY	372	489	379	292	1076	1233
	Right	CHX	230	3	68	321	197	248
GT060	Left	PHY	10841	9805	8066	6845	5106	3811
	Right	CHX	11914	193	2220	3256	3478	5328
GT062	Left	PHY	518	275	511	328	1018	688
	Right	CHX	2923	12	394	1348	588	990
GT061	Left	PHY	8695	3589	7659	7215	3959	5513
	Right	CHX	1047	13	1162	2072	1554	1776
GT055	Left	PHY	2146	746	3256	2331	4329	3034
	Right	CHX	230	37	365	860	628	173
GT058	Left	PHY	119	131	139	1004	645	875
	Right	CHX	230	1	37	124	90	178

**Table S4** Bacterial densities (CFU/cm<sup>2</sup>) from Study 3, right and left sides of the neck for the 7 volunteers, at the initial sampling time (D0 t0), 5 h (D0 t5h), 1 day (D1), 2 days (D2), 3 days (D3), and 7 days (D7) after a single topical application to the neck of physiological saline (PHY) on the left side, or chlorhexidine (CHX) on the right side.

Study 4								
Volunteer	Side	Ingredient	D0 t0	D0 t5h	D1	D2	D3	D7
GT052	Left	CHX	1391	158	98	86	46	717
	Right	PHY	1563	576	1369	635	946	1517
GT053	Left	CHX	789	10	16	30	71	645
	Right	PHY	165	206	123	379	148	401
GT055	Left	CHX	559	1517	860	2664	423	2738
	Right	PHY	3959	5143	2279	5143	5439	4366
GT056	Left	CHX	4662	3	559	55	77	3219
	Right	PHY	8732	3330	6068	2627	1241	8288
GT064	Left	CHX	6919	28	918	102	635	2368
	Right	PHY	2035	1822	3374	3885	4773	4921

**Table S5** Bacterial densities (CFU/cm<sup>2</sup>) from Study 4, right and left sides of the neck for the 7 volunteers, at the initial sampling time (D0 t0), 5 h (D0 t5h), 1 day (D1), 2 days (D2), 3 days (3D), and 7 days (D7) after three days of twice-daily topical application (from D0 to D2) of physiological saline (PHY) to the right side or chlorhexidine (CHX) to the left side of the neck.

Volunteer	Side	Ingredient	D0 t0	D0 t5h	D1	D2	D3	D7
Volunteer 1	Right	CHX	34	0	0	16	123	50
	Left	PHY	38	30	16	10	145	67
Volunteer 2	Right	CHX	1021	116	153	312	134	1006
	Left	PHY	1317	696	622	58	253	407
Volunteer 3	Right	CHX	77	0	7	24	2	29
	Left	PHY	53	30	32	21	34	32
Volunteer 5	Right	CHX	3315	297	6808	881	1110	2131
	Left	PHY	7252	12062	10804	9398	8140	6586
Volunteer 6	Right	CHX	2868	141	1162	2290	213	2209
	Left	PHY	6290	2287	1317	2383	555	2490
Volunteer 7	Right	CHX	190	107	369	271	81	394
	Left	PHY	287	511	276	227	277	3086
Volunteer 8	Right	CHX	1147	182	173	424	162	866
	Left	PHY	425	614	1103	3596	1687	1558
Volunteer 9	Right	CHX	238	481	254	50	162	5
	Left	PHY	306	371	472	102	807	13
Volunteer 10	Right	CHX	117	121	236	61	89	166
	Left	PHY	107	167	81	192	78	90
Volunteer 11	Right	CHX	3663	525	1798	4048	918	27
	Left	PHY	8288	2967	9398	3115	6438	22200
Volunteer 12	Right	CHX	6808	1147	6216	9620	1117	17242
	Left	PHY	205	4477	13024	13912	13024	23162

**Table S6** Bacterial densities (CFU/cm<sup>2</sup>) from Study 5, right and left sides of the neck for the 12 volunteers, at each sampling time: D0 Day 0 Initial point, D0 t5h Short-term sampling after 5 h, and D1, D2, D3 and D7, sampling after 1 day, 2 days, 3 days, and 7 days, respectively. Topical applications were performed twice-daily over three days (from D0 to D2); applying physiological saline (PHY) to the left side and chlorhexidine (CHX) to the right side of the neck.

Volunteer	Side	Ingredient	D0 t0	D0 t0+5h	D1	D2	D3	D7
Volunteer 1	Right	none	54	-	-	-	-	-
	Left	CHX	67	3	171	64	17	315
Volunteer 2	Right	none	2990	-	-	-	-	-
	Left	CHX	6586	7	16	77	13	252
Volunteer 3	Right	none	144	-	-	-	-	-
	Left	CHX	2324	24	201	18	65	65
Volunteer 4	Right	none	5550	-	-	-	-	-
	Left	CHX	3763	784	718	784	248	1295
Volunteer 5	Right	none	8288	-	-	-	-	-
	Left	CHX	3471	0	107	67	229	15540
Volunteer 6	Right	none	367	-	-	-	-	-
	Left	CHX	129	23	16	36	27	75
Volunteer 7	Right	none	407	-	-	-	-	-
	Left	CHX	228	6	71	16	14	147
Volunteer 8	Right	none	6364	-	-	-	-	-
	Left	CHX	10952	8658	4440	1817	3426	6882
Volunteer 9	Right	none	548	-	-	-	-	-
	Left	CHX	1214	6	10	48	73	243
Volunteer 10	Right	none	222	-	-	-	-	-
	Left	CHX	629	11	940	636	371	1014
Volunteer 11	Right	none	282	-	-	-	-	-
	Left	CHX	740	607	0	30	0	2
Volunteer 12	Right	none	23014	-	-	-	-	-
	Left	CHX	26196	7252	8658	1332	1214	7844

**Table S7** Bacterial densities (CFU/cm<sup>2</sup>) from Study 6, right and left sides of the neck for the 12 volunteers, at each sampling time: D0 Day 0 Initial point, D0 t5h Short term sampling after 5 h, and D1, D2, D3, and D7, sampling after 1 day, 2 days, 3 days, and 7 days, respectively. Chlorhexidine (CHX) was topically applied to the left side of the neck for three days (from D0 to D2). Only the initial sampling (D0 t0) was done on the right side of the neck.