

Table S1. Primers used in PCR amplification of conserved region in 16S rDNA gene for bacterial strains.

Molecular characterization	Size	Primers	T _m (° C)	PCR Reaction mixture	Reference
<i>S. sobrinus</i>	1610 bp	F-5'-TGCTATCTTCCCTAGCATG-3' R-5'-GGTATTCGGTTTGACTGC-3'	55	10 mM Tris-HCl, 1.5 mM MgCl ₂ , 50 mM KCl, 1mg gelatin, 200 µM dNTPs, 50 pmol primers, 10 µl of template solution, 2.5 U <i>Taq</i> DNA polymerase	[1]
<i>S. mutans</i>	1272 bp	F-5'-TATGCTGCTATTGGAGGTTTC-3' R-5'-AAGGTTGAGCAATTGAATCG-3'	55	10 mM Tris-HCl, 1.5 mM MgCl ₂ , 50 mM KCl, 1mg gelatin, 200 µM dNTPs, 50 pmol primers, 10 µl of template solution, 2.5 U <i>Taq</i> DNA polymerase	[1]
<i>A. naeslundii</i>	600bp	F-5'-AARATHCAYGARGAYTGGGG-3' R-5'-GCNGGRTTDTATNGTRTAYTT-3'	55	1.5 mM MgCl ₂ , 75 µM dNTPs, 2.5 U <i>Taq</i> DNA polymerase, 100 pmol primers, 0.5 µg of chromosomal DNA	[2]
<i>L. acidophilus</i>	1500 bp	F-5'-GGCTACCTTGTTACGA-3' R-5'-GAGTTTGATCCTGGCTCAG-3'	56	2 µl DNA template, 1 µl reaction buffer, 0.6 µl MgCl ₂ , 0.5 µl primers, 0.4 µl <i>Taq</i> DNA polymerase, 0.2 µl dNTPs, 4.8 µl Nano pure water	[3]
<i>E. nodatum</i>	492 bp	F-5'-AGA GTT TGA TCC TGG CTC AG-3' R-5'-GCC TTA AAC CCT RCG CTT-3'	52	4 µl DNA template, 2 µl reaction buffer, 0.6 µl MgCl ₂ , 0.5 µl primers, 0.4 µl <i>Taq</i> DNA polymerase, 0.2 µl dNTPs, 12.3 µl Nano pure water	[4]
<i>P. acidifaciens</i>	950 bp	F-5'-GCACCTTCATYATCAACGGCAC-3' R-5'-CACATVCGRCCGTAGTG-3'	56	5 µl DNA template, 2 µl reaction buffer, 0.6 µl MgCl ₂ , 0.5 µl primers, 0.4 µl <i>Taq</i> DNA polymerase, 0.2 µl dNTPs, 16.3 µl Nano pure water	[5]

<i>T. pallidum</i>	209 bp	F-5'- AGACGGCTGCACATCTTCTCCA-3' R-5'- AGCAGACGTTACATCGAGCGGA-3'	60	1X PCR buffer, 0.18 mM MgCl ₂ , 5 µl DNA template, 0.02 mM dNTPs, U <i>Taq</i> DNA platinum polymerase, Up to the final [6] volume added sterile water
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Table S2. ANOVA for antibacterial activity of herbal extracts for *S. sobrinus*.

Two-way RM ANOVA	Matching: Both factors					
Assume sphericity?	No					
Alpha	0.05					
Source of Variation	% of total variation	<i>p</i> value	<i>p</i> value summary	Significant?	Geisser-Greenhouse's epsilon	
Strength of extract	13.48	<0.0001	****	Yes	0.1124	
Plant	17.35	<0.0001	****	Yes	0.2212	
Strength of extract x Plant	69.05	<0.0001	****	Yes	0.02574	
Type of extracts x Strength of extract	0.004441					
Type of extracts x Plant	0.002476					
Type of extracts	0.08958					
ANOVA table	SS	DF	MS	F (DFn, DFd)	<i>p</i> value	
Strength of extract	280.3	11	25.48	F (1.236, 2.472) = 6069	<i>p</i> <0.0001	
Plants	360.8	5	72.16	F (1.106, 2.212) = 14017	<i>p</i> <0.0001	
Strength of extract x Plant	1436	55	26.11	F (1.416, 2.831) = 5746	<i>p</i> <0.0001	
Type of extracts x Strength of extract	0.09236	22	0.004198			
Type of extracts x Plant	0.05148	10	0.005148			
Type of extracts	1.863	2	0.9314			
Residual	0.4998	110	0.004544			
Data summary						
Plant	6					
Strength of extract	12					
Type of extracts	3					
Number of missing values	0					

Table S3. ANOVA for antibacterial activity of herbal extracts for *S. mutans*.

Two-way ANOVA	RM	Matching: Both factors				
Assume sphericity?	No					
Alpha	0.05					
Source of Variation	% of total variation	<i>p</i> value	<i>p</i> value summary	Significant?	Geisser-Greenhouse's epsilon	
Strength of extract	13.48	<0.0001	****	Yes	0.1124	
Plant	17.35	<0.0001	****	Yes	0.2212	
Strength of extract x Plant	69.05	<0.0001	****	Yes	0.02574	
Type of extracts x Strength of extract	0.004441					
Type of extracts x Plant	0.002476					
Type of extracts	0.08958					
ANOVA table	SS	DF	MS	F (DFn, DFd)	<i>p</i> value	
Strength of extract	280.3	11	25.48	F (1.236, 2.472) = 6069	<i>p</i> <0.0001	
Plants	360.8	5	72.16	F (1.106, 2.212) = 14017	<i>p</i> <0.0001	
Strength of extract x Plant	1436	55	26.11	F (1.416, 2.831) = 5746	<i>p</i> <0.0001	
Type of extracts x Strength of extract	0.09236	22	0.004198			
Type of extracts x Plant	0.05148	10	0.005148			
Type of extracts	1.863	2	0.9314			
Residual	0.4998	110	0.004544			
Data summary						
Plant	6					
Strength of extract	12					
Type of extracts	3					
Number of missing values	0					

Table S4. ANOVA for antibacterial activity of herbal extracts for *A. naeslundii*.

Two-way ANOVA	RM	Matching: Both factors				
Assume sphericity?	No					
Alpha	0.05					
Source of Variation	% of total variation	<i>p</i> value	<i>p</i> value summary	Significant?	Geisser-Greenhouse's epsilon	
Strength of extract	10.92	<0.0001	****	Yes	0.131	
Plant	56.6	<0.0001	****	Yes	0.2324	
Strength of extract x Plant	32.38	<0.0001	****	Yes	0.03286	
Type of extracts x Strength of extract	0.003634					
Type of extracts x Plant	0.003737					
Type of extracts	0.08416					
ANOVA table	SS	DF	MS	F (DFn, DFd)	<i>p</i> value	
Strength of extract	182.9	11	16.63	F (1.440, 2.881) = 6008	<i>p</i> <0.0001	
Plants	948.4	5	189.7	F (1.162, 2.324) = 30290	<i>p</i> <0.0001	
Strength of extract x Plant	542.7	55	9.867	F (1.807, 3.614) = 4837	<i>p</i> <0.0001	
Type of extracts x Strength of extract	0.0609	22	0.002768			
Type of extracts x Plant	0.06262	10	0.006262			
Type of extracts	1.41	2	0.7052			
Residual	0.2244	110	0.00204			
Data summary						
Plant	6					
Strength of extract	12					
Type of extracts	3					
Number of missing values	0					

Table S5. ANOVA for antibacterial activity of herbal extracts for *L. acidophilus*.

Two-way RM ANOVA	Matching: Both factors					
Assume sphericity?	No					
Alpha	0.05					
Source of Variation	% of total variation	<i>p</i> value	<i>p</i> value summary	Significant?	Geisser-Greenhouse's epsilon	
Strength of extract	10.4	<0.0001	****	Yes	0.1075	
Plant	56.45	<0.0001	****	Yes	0.2222	
Strength of extract x Plant	33.03	<0.0001	****	Yes	0.02633	
Type of extracts x Strength of extract	0.002761					
Type of extracts x Plant	0.00514					
Type of extracts	0.09129					
ANOVA table	SS	DF	MS	F (DFn, DFd)	<i>p</i> value	
Strength of extract	185.5	11	16.87	F (1.182, 2.365) = 7529	<i>p</i> <0.0001	
Plants	1008	5	201.5	F (1.111, 2.222) = 21966	<i>p</i> <0.0001	
Strength of extract x Plant	589.6	55	10.72	F (1.448, 2.896) = 3820	<i>p</i> <0.0001	
Type of extracts x Strength of extract	0.04928	22	0.00224			
Type of extracts x Plant	0.09174	10	0.009174			
Type of extracts	1.629	2	0.8146			
Residual	0.3087	110	0.002806			
Data summary						
Plant	6					
Strength of extract	12					
Type of extracts	3					
Number of missing values	0					

Table S6. ANOVA for antibacterial activity of herbal extracts for *E. nodatum*.

Two-way RM ANOVA	Matching: Both factors					
Assume sphericity?	No					
Alpha	0.05					
Source of Variation	% of total variation	<i>p</i> value	<i>p</i> value summary	Significant?	Geisser-Greenhouse's epsilon	
Strength of extract	10.38	<0.0001	****	Yes	0.112	
Plant	57.57	<0.0001	****	Yes	0.2151	
Strength of extract x Plant	31.92	<0.0001	****	Yes	0.02427	
Type of extracts x Strength of extract	0.005656					
Type of extracts x Plant	0.006558					
Type of extracts	0.1041					
ANOVA table	SS	DF	MS	F (DFn, DFd)	<i>p</i> value	
Strength of extract	171.6	11	15.6	F (1.233, 2.465) = 3669	<i>p</i> <0.0001	
Plants	952.1	5	190.4	F (1.075, 2.151) = 17555	<i>p</i> <0.0001	
Strength of extract x Plant	527.8	55	9.597	F (1.335, 2.669) = 2837	<i>p</i> <0.0001	
Type of extracts x Strength of extract	0.09354	22	0.004252			
Type of extracts x Plant	0.1085	10	0.01085			
Type of extracts	1.721	2	0.8607			
Residual	0.3721	110	0.003383			
Data summary						
Plant	6					
Strength of extract	12					
Type of extracts	3					
Number of missing values	0					

Table S7. ANOVA for antibacterial activity of herbal extracts for *P. acidifaciens*.

Two-way RM ANOVA	Matching: Both factors					
Assume sphericity?	No					
Alpha	0.05					
Source of Variation	% of total variation	<i>p</i> value	<i>p</i> value summary	Significant?	Geisser-Greenhouse's epsilon	
Strength of extract	12.17	<0.0001	****	Yes	0.131	
Plant	56.78	<0.0001	****	Yes	0.2209	
Strength of extract x Plant	30.92	<0.0001	****	Yes	0.02727	
Type of extracts x Strength of extract	0.00405					
Type of extracts x Plant	0.003213					
Type of extracts	0.09746					
ANOVA table	SS	DF	MS	F (DFn, DFd)	<i>p</i> value	
Strength of extract	211.6	11	19.24	F (1.441, 2.881) = 6012	<i>p</i> <0.0001	
Plants	987.1	5	197.4	F (1.105, 2.209) = 35341	<i>p</i> <0.0001	
Strength of extract x Plant	537.6	55	9.775	F (1.500, 3.000) = 3562	<i>p</i> <0.0001	
Type of extracts x Strength of extract	0.0704	22	0.0032			
Type of extracts x Plant	0.05586	10	0.005586			
Type of extracts	1.694	2	0.8471			
Residual	0.3019	110	0.002744			
Data summary						
Plant	6					
Strength of extract	12					
Type of extracts	3					
Number of missing values	0					

Table S8. ANOVA for antibacterial activity of herbal extracts for *T. pallidum*.

Two-way RM ANOVA	Matching: Both factors					
Assume sphericity?	No					
Alpha	0.05					
Source of Variation	% of total variation	<i>p</i> value	<i>p</i> value summary	Significant?	Geisser-Greenhouse's epsilon	
Strength of extract	12.44	<0.0001	****	Yes	0.1411	
Plant	56.87	<0.0001	****	Yes	0.2124	
Strength of extract x Plant	30.56	<0.0001	****	Yes	0.02792	
Type of extracts x Strength of extract	0.003487					
Type of extracts x Plant	0.005061					
Type of extracts	0.09802					
ANOVA table	SS	DF	MS	F (DFn, DFd)	<i>p</i> value	
Strength of extract	218.4	11	19.86	F (1.553, 3.105) = 7138	<i>p</i> <0.0001	
Plants	998.1	5	199.6	F (1.062, 2.124) = 22472	<i>p</i> <0.0001	
Strength of extract x Plant	536.4	55	9.754	F (1.536, 3.072) = 3038	<i>p</i> <0.0001	
Type of extracts x Strength of extract	0.06121	22	0.002782			
Type of extracts x Plant	0.08883	10	0.008883			
Type of extracts	1.721	2	0.8603			
Residual	0.3532	110	0.00321			
Data summary						
Plant	6					
Strength of extract	12					
Type of extracts	3					
Number of missing values	0					

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