

**Supplementary Table S1.** List of *Lactobacillaceae* type strains and WGS reference accession used in this study

<b>genus</b>	<b>species</b>	<b>type strain</b>	<b>Reference Accession</b>
<i>Periweissella</i>	<i>Periweissella beninensis</i>	LMG 25373 <sup>T</sup>	JAGMVS010000000
	<i>Periweissella cryptocerci</i>	26KH-42 <sup>T</sup>	NZ_CP037940.1
	<i>Periweissella fabalis</i>	LMG 26217 <sup>T</sup>	JAGMVU010000000
	<i>Periweissella fabaria</i>	LMG 24286 <sup>T</sup>	JAGMVB010000000
	<i>Periweissella ghanensis</i>	DSM 19935 <sup>T</sup>	JAGMVW010000000
<i>Weissella</i>	<i>Weissella bombi</i>	DSM 28794 <sup>T</sup>	NZ_FMAO000000000.1
	<i>Weissella ceti</i>	CCUG 59653 <sup>T</sup>	NZ_ANCA010000000.1
	<i>Weissella cibaria</i>	CCUG 41967 <sup>T</sup>	NZ_VNGZ010000000.1
	<i>Weissella coleopterum</i>	HDW19 <sup>T</sup>	NZ_CP049888.1
	<i>Weissella confusa</i>	ATCC 10881 <sup>T</sup>	NZ_CP027563.1
	<i>Weissella diestrammenae</i>	DSM 27940 <sup>T</sup>	JAGMVT010000000
	<i>Weissella fangxianensis</i>	HBUAS51963 <sup>T</sup>	JAMXDB000000000.1
	<i>Weissella halotolerans</i>	ATCC 35410 <sup>T</sup>	NZ_ATUU010000000.1
	<i>Weissella hellenica</i>	ATCC 51523 <sup>T</sup>	NZ_JAAXPM010000000.1
	<i>Weissella jogaejeotgali</i>	FOL01 <sup>T</sup>	NZ_CP014332.1
	<i>Weissella kandleri</i>	ATCC 51149 <sup>T</sup>	NZ_JQBP010000000.1
	<i>Weissella koreensis</i>	CCUG 47134 <sup>T</sup>	NZ_AKGG010000000.1
	<i>Weissella minor</i>	ATCC 35412 <sup>T</sup>	NZ_JQCD010000000.1
	<i>Weissella muntiaci</i>	8 H-2 <sup>T</sup>	NZ_SDGZ010000000.1
	<i>Weissella oryzae</i>	DSM 25784 <sup>T</sup>	NZ_DF820484.1
	<i>Weissella paramesenteroides</i>	ATCC 33313 <sup>T</sup>	ACKU010000000.1
	<i>Weissella sagaensis</i>	CCM 8924 <sup>T</sup>	BLKA01000001.1
	<i>Weissella soli</i>	CCUG 46608 <sup>T</sup>	NZ_CP017326.1
	<i>Weissella thailandensis</i>	CCUG 46557 <sup>T</sup>	NZ_BJEC010000000.1
	<i>Weissella uvarum</i>	B18NM42 <sup>T</sup>	JAGMVX010000000
	<i>Weissella viridescens</i>	ATCC 12706 <sup>T</sup>	NZ_CP061835.1
<i>Lactobacillus</i>	<i>Lactobacillus rogosae</i>	ATCC 27753 <sup>T</sup>	FONU01000000

<i>Latilactobacillus</i>	<i>Latilactobacillus curvatus</i>	DSM 20089 <sup>T</sup>	AZDL00000000
<i>Ligilactobacillus</i>	<i>Ligilactobacillus acidipiscis</i>	DSM 15836 <sup>T</sup>	AZFI00000000
	<i>Ligilactobacillus agilis</i>	DSM 20509 <sup>T</sup>	AYYP00000000
	<i>Ligilactobacillus ruminis</i>	DSM 20403 <sup>T</sup>	AYYL00000000
	<i>Ligilactobacillus salitolerans</i>	DSM 103433 <sup>T</sup>	BFFP01000000
<i>Liquorilactobacillus</i>	<i>Liquorilactobacillus aquaticus</i>	DSM 21051 <sup>T</sup>	AYZD00000000
	<i>Liquorilactobacillus cacaonum</i>	DSM 21116 <sup>T</sup>	AYZE00000000
	<i>Liquorilactobacillus capillatus</i>	DSM 19910 <sup>T</sup>	AZEF00000000
	<i>Liquorilactobacillus ghanensis</i>	DSM 18630 <sup>T</sup>	AZGB00000000
	<i>Liquorilactobacillus hordei</i>	DSM 19519 <sup>T</sup>	AZDX00000000
	<i>Liquorilactobacillus mali</i>	DSM 20444 <sup>T</sup>	AYYH00000000
	<i>Liquorilactobacillus nagelii</i>	DSM 13675 <sup>T</sup>	AZEV00000000
	<i>Liquorilactobacillus oeni</i>	DSM 19972 <sup>T</sup>	AZEH00000000
	<i>Liquorilactobacillus satsumensis</i>	DSM 16230 <sup>T</sup>	AZFQ00000000
	<i>Liquorilactobacillus sucicola</i>	DSM 21376 <sup>T</sup>	AYZF00000000
	<i>Liquorilactobacillus uvarum</i>	DSM 19971 <sup>T</sup>	AZEG00000000
	<i>Liquorilactobacillus vini</i>	DSM 20605 <sup>T</sup>	AYYX00000000