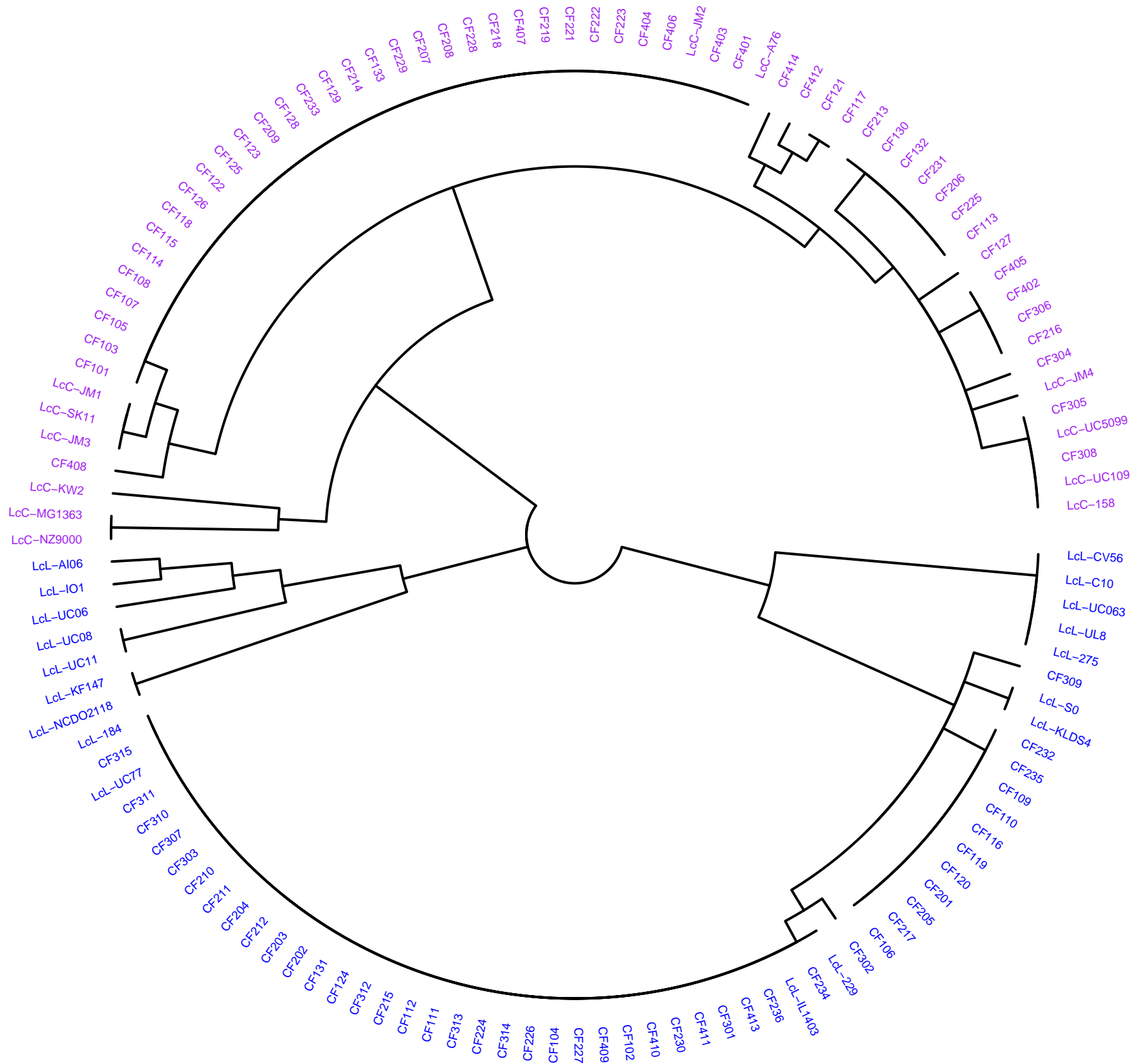
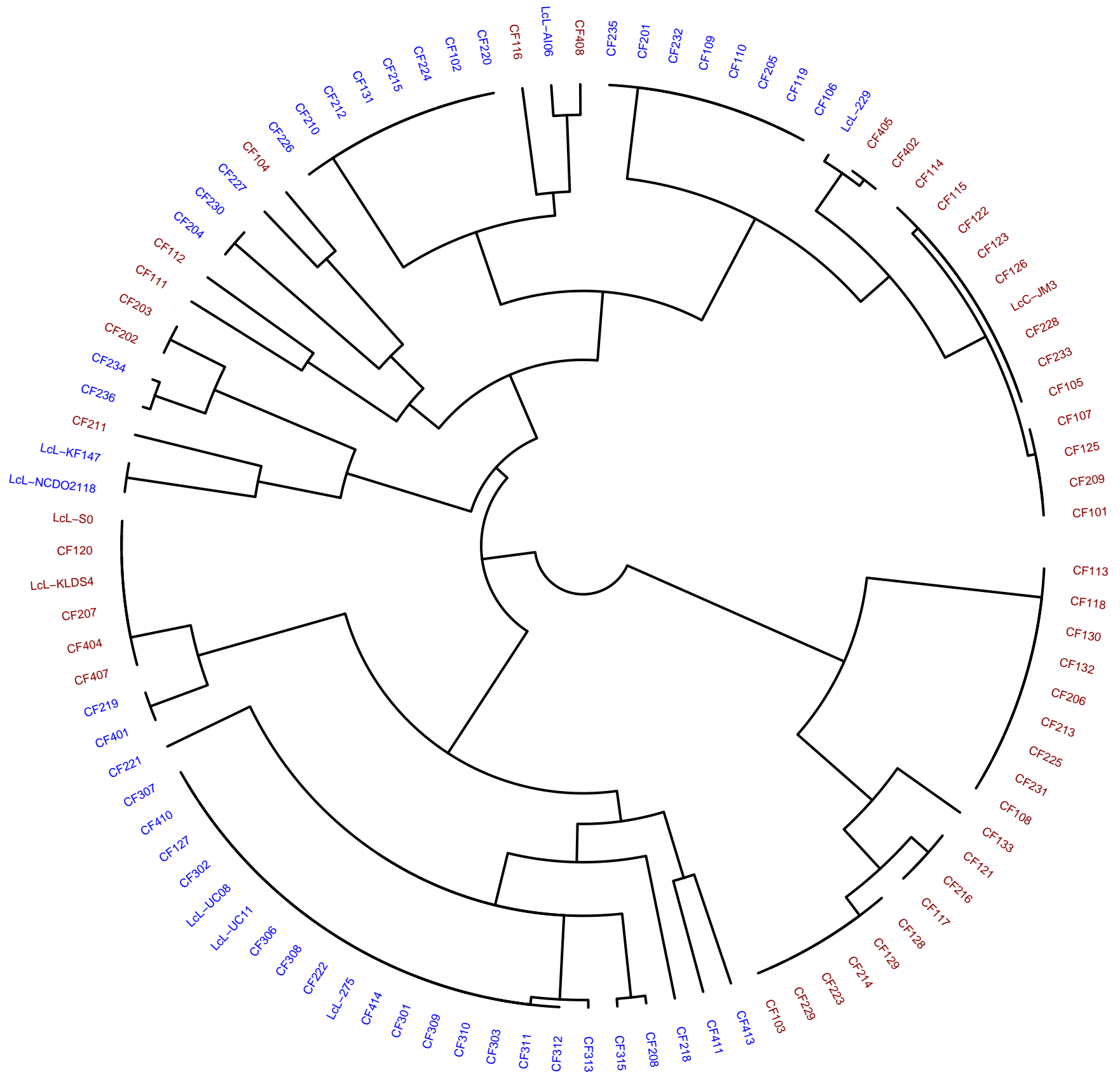


Supplementary Figure S1: Differentiation of *Lactococcus lactis* using 16S rDNA. Subspecies classification is indicated by the label color, purple indicates *Lactococcus lactis* subsp. *cremoris* while blue indicates *Lactococcus lactis* subsp. *lactis*.



Supplementary Figure S2: Differentiation of *Lactococcus lactis* isolates by purR. Subspecies is indicated by the label color, purple indicates *Lactococcus lactis* subsp. *cremoris* while blue indicates *Lactococcus lactis* subsp. *lactis*.



Supplementary Figure S3: Differentiation of *Lactococcus lactis* isolates by *epsD*. Subspecies is indicated by the label color, purple indicates *Lactococcus lactis* subsp. *cremoris* while blue indicates *Lactococcus lactis* subsp. *lactis*.

Supplementary table S1:

<b>Isolate name</b>	<b>Accession No.</b>	<b>Isolation source</b>	<b>Subspecies</b>	<b>Reference</b>
<b>IL1403</b>	AE005176	Dairy	lactis	(1)
<b>MG1363</b>	AM406671	Laboratory isolate	cremoris	(2)
<b>IO1</b>	AP012281	Drain water	lactis	(3)
<b>SK11</b>	CP000425	Dairy	cremoris	(4)
<b>KF147</b>	CP001834	Mung bean sprout	lactis	(5)
<b>NZ9000</b>	CP002094	Laboratory isolate	cremoris	(6)
<b>CV56</b>	CP002365	Human	lactis	(7)
<b>A76</b>	CP003132	Dairy	cremoris	(8)
<b>UC509.9</b>	CP003157	Dairy	cremoris	(9)
<b>KW2</b>	CP004884	Dairy	cremoris	(10)
<b>KLDS 4.0325</b>	CP006766	Koumiss	lactis	(11)
<b>NCDO2118</b>	CP009054	Frozen peas	lactis	(12)
<b>AI06</b>	CP009472	Acai palm	lactis	(13)
<b>S0</b>	CP010050	Dairy	lactis	(14)
<b>158</b>	CP015894	Dairy	cremoris	(15)
<b>184</b>	CP015895	Dairy	lactis	(15)
<b>275</b>	CP015897	Dairy	lactis	(15)
<b>229</b>	CP015896	Dairy	lactis	(15)
<b>C10</b>	CP015898	Dairy	lactis	(15)
<b>JM1</b>	CP015899	Dairy	cremoris	(15)
<b>JM2</b>	CP015900	Dairy	cremoris	(15)
<b>JM3</b>	CP015901	Dairy	cremoris	(15)
<b>UC06</b>	CP015902	Dairy	lactis	(15)
<b>UC08</b>	CP015903	Fermented meat	lactis	(15)
<b>UC11</b>	CP015904	Fermented meat	lactis	(15)
<b>UC063</b>	CP015905	Dairy	lactis	(15)
<b>UC77</b>	CP015906	Dairy	lactis	(15)
<b>UC109</b>	CP015907	Dairy	cremoris	(15)
<b>UL8</b>	CP015908	Dairy	lactis	(15)
<b>JM4</b>	CP015909	Dairy	cremoris	(15)
<b>CF101</b>		Culture A	cremoris	**
<b>CF102</b>		Culture A	lactis	**
<b>CF103</b>		Culture A	cremoris	**
<b>CF104</b>		Culture A	lactis	**
<b>CF105</b>		Culture A	cremoris	**
<b>CF106</b>		Culture A	lactis	**
<b>CF107</b>		Culture A	cremoris	**
<b>CF108</b>		Culture A	cremoris	**
<b>CF109</b>		Culture A	lactis	**

CF110		Culture A	lactis	**
CF111		Culture A	lactis	**
CF112		Culture A	lactis	**
CF113		Culture A	cremoris	**
CF114		Culture A	cremoris	**
CF115		Culture A	cremoris	**
CF116		Culture A	lactis	**
CF117		Culture A	cremoris	**
CF118		Culture A	cremoris	**
CF119		Culture A	lactis	**
CF120		Culture A	lactis	**
CF121		Culture A	cremoris	**
CF122		Culture A	cremoris	**
CF123		Culture A	cremoris	**
CF124		Culture A	lactis	**
CF125		Culture A	cremoris	**
CF126		Culture A	cremoris	**
CF127		Culture A	cremoris	**
CF128		Culture A	cremoris	**
CF129		Culture A	cremoris	**
CF130		Culture A	cremoris	**
CF131		Culture A	lactis	**
CF132		Culture A	cremoris	**
CF133		Culture A	cremoris	**
CF201		Culture A	lactis	**
CF202		Culture A	lactis	**
CF203		Culture A	lactis	**
CF204		Culture A	lactis	**
CF205		Culture A	lactis	**
CF206		Culture A	cremoris	**
CF207		Culture A	cremoris	**
CF208		Culture A	cremoris	**
CF209		Culture A	cremoris	**
CF210		Culture A	lactis	**
CF211		Culture A	lactis	**
CF212		Culture A	lactis	**
CF213		Culture A	cremoris	**
CF214		Culture A	cremoris	**
CF215		Culture A	lactis	**
CF216		Culture A	cremoris	**
CF217		Culture A	lactis	**
CF218		Culture A	cremoris	**
CF219		Culture A	cremoris	**
CF220		Culture A	lactis	**

CF221		Culture A	cremoris	**
CF222		Culture A	cremoris	**
CF223		Culture A	cremoris	**
CF224		Culture A	lactis	**
CF225		Culture A	cremoris	**
CF226		Culture A	lactis	**
CF227		Culture A	lactis	**
CF228		Culture A	cremoris	**
CF229		Culture A	cremoris	**
CF230		Culture A	lactis	**
CF231		Culture A	cremoris	**
CF232		Culture A	lactis	**
CF233		Culture A	cremoris	**
CF234		Culture A	lactis	**
CF235		Culture A	lactis	**
CF236		Culture A	lactis	**
CF301		Culture C	lactis	**
CF302		Culture C	lactis	**
CF303		Culture C	lactis	**
CF304		Culture C	cremoris	**
CF305		Culture C	cremoris	**
CF306		Culture C	cremoris	**
CF307		Culture C	lactis	**
CF308		Culture C	cremoris	**
CF309		Culture C	lactis	**
CF310		Culture C	lactis	**
CF311		Culture C	lactis	**
CF312		Culture C	lactis	**
CF313		Culture C	lactis	**
CF314		Culture C	lactis	**
CF315		Culture C	lactis	**
CF401		Culture B	cremoris	**
CF402		Culture B	cremoris	**
CF403		Culture B	cremoris	**
CF404		Culture B	cremoris	**
CF405		Culture B	cremoris	**
CF406		Culture B	cremoris	**
CF407		Culture B	cremoris	**
CF408		Culture B	cremoris	**
CF409		Culture B	lactis	**
CF410		Culture B	lactis	**
CF411		Culture B	lactis	**
CF412		Culture B	cremoris	**
CF413		Culture B	lactis	**

<b>CF414</b>		Culture B	cremoris	**
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\*\* Isolates provided in this study

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Supplementary table S2:

<b>Pan-genomic <i>L. lactis</i> subsp. <i>lactis</i> lineages</b>	
<b>Lineage</b>	<b>Isolates</b>
<b>L1</b>	CF102, CF104, CF111, CF124, CF131, CF202, CF203, CF204, CF210, CF211, CF212, CF215, CF224, CF226, CF227, CF234, CF236
<b>L2</b>	CF106, CF109, CF110, CF112, CF119, CF201, CF205, CF220, CF232, CF235
<b>L3</b>	CF301, CF303, CF309, CF310, CF311, CF312, CF313, CF315
<b>L4</b>	CF116, CF120, CF217
<b>L5</b>	CF411, CF413
<b>L6</b>	IL1403, 229, UC77
<b>L7</b>	CF410
<b>L8</b>	CF230
<b>L9</b>	CF302
<b>L10</b>	CF314
<b>L11</b>	CF409
<b>L12</b>	CF307
<b>L13</b>	275, UC063, CV56, C10, UL8, 184
<b>L14</b>	UC08, UC11
<b>L15</b>	KF147
<b>L16</b>	NCDO2118
<b>L17</b>	AI06
<b>L18</b>	IO1
<b>L19</b>	S0
<b>L20</b>	UC06
<b>L21</b>	KLDS4
<b>Pan-genomic <i>L. lactis</i> subsp. <i>cremoris</i> lineages</b>	
<b>Lineage</b>	<b>Isolates</b>
<b>C1</b>	CF123, CF105, CF122, CF126, CF233, CF101, CF125, CF115, CF209, CF107, CF228, CF114
<b>C2</b>	CF130, CF225, CF132, CF213, CF113, CF206, CF231
<b>C3</b>	CF128, CF129, CF214, CF223, CF229, CF103
<b>C4</b>	158, UC5099, UC109, CF305
<b>C5</b>	CF401, CF404, CF406, CF403, CF407
<b>C6</b>	CF117, CF121
<b>C7</b>	CF108, CF118
<b>C8</b>	JM3, SK11
<b>C9</b>	CF219, CF221
<b>C10</b>	CF208, CF218
<b>C11</b>	CF402, CF405
<b>C12</b>	CF412
<b>C13</b>	CF414
<b>C14</b>	CF408
<b>C15</b>	CF127

<b>C16</b>	CF207
<b>C17</b>	CF222
<b>C18</b>	JM1
<b>C19</b>	CF304
<b>C20</b>	A76
<b>C21</b>	CF308
<b>C22</b>	CF216
<b>C23</b>	CF306
<b>C24</b>	JM2
<b>C25</b>	JM4
<b>C26</b>	CF133
<b>C27</b>	KW2
<b>C28</b>	MG1363, NZ9000