

Strains	Genotype	Source
<i>E. coli</i> BL21 DE3	<i>F-ompT hsdSB (rb-mb)gal dcm (DE3)</i>	Agilent Technology Ltd., UK
<i>E. coli</i> DH5 α	<i>F⁻, ϕ 80dlacZ ΔM15, Δ(lacZYA -argF)U169, deoR, recA1, endA1, hsdR17 (rK⁻, mK⁺), phoA, supE44, λ^-, thi -I, gyrA96, relA1</i>	In-Fusion HD Cloning Kit Clontech, USA
<i>S. pneumoniae</i> D39	Virulent type 2 strain	The National Collection of Type Cultures, London, UK Strain NTCC 7466
Δ SPD0534 (Δ estA)	Tributyryl esterase, putative	This study
Δ SPD1506 (Δ axe)	Acetyl xylan esterase, putative	This study
Δ SPD1239	Acyl-ACP-thioesterase, putative	This study
Δ SPD0932	Phosphoesterase, putative	This study
Δ estAnanA	Tributyryl esterase-neuraminidase A double mutant	This study
Δ axenanA	Acetyl xylan esterase-neuraminidase A double mutant	This study
Δ estAaxe	Tributyryl esterase-acetyl xylan esterase double mutant	This study
Δ nanA	Neuraminidase A	This study
estAComp	Tributyryl esterase complemented	This study
axeComp	Acetyl xylan esterase complemented	This study
estAComp ^{S121A}	Tributyryl esterase modified complemented	This study
axeComp ^{S181A}	Acetyl xylan esterase modified complemented	This study
Δ lytA	Autolysin mutant	1

Supporting reference:

1. Balachandran P, Hollingshead SK, Paton JC, Briles DE. The autolytic enzyme LytA of *Streptococcus pneumoniae* is not responsible for releasing pneumolysin. J Bacteriol. 2001;183(10):3108-16.