

Caution: For Research Use. This product is intended for animal research only and not for use in humans. Not for human or animal therapeutic or diagnostic use.

Staphylococcus aureus

S. aureus 8325-4 (Xen8.1)

Product No.: 119239

Material Provided: 1 Agar Plate

Storage Conditions: -80°C

In vitro Characteristics

Genetic Characteristics

Staphylococcus aureus-Xen8.1 was derived from the parental strain *S. aureus* 8325-4. *S. aureus*-Xen8.1 was engineered through transposition of Tn4001 luxABCDE on plasmid pXen-5. Xen8.1 possesses a single stable copy of the modified *P. luminescens* lux operon that was inserted in the δ -toxin coding region in the RNIII transcript downstream of the agr P3 promoter on the bacterial chromosome.

Growth Characteristics

S. aureus-Xen8.1 grows well in Luria Bertani (LB) medium at 37°C under ambient aeration. *S. aureus*-Xen8.1 may also be grown selectively on LB or BHI agar containing 200µg/mL kanamycin.

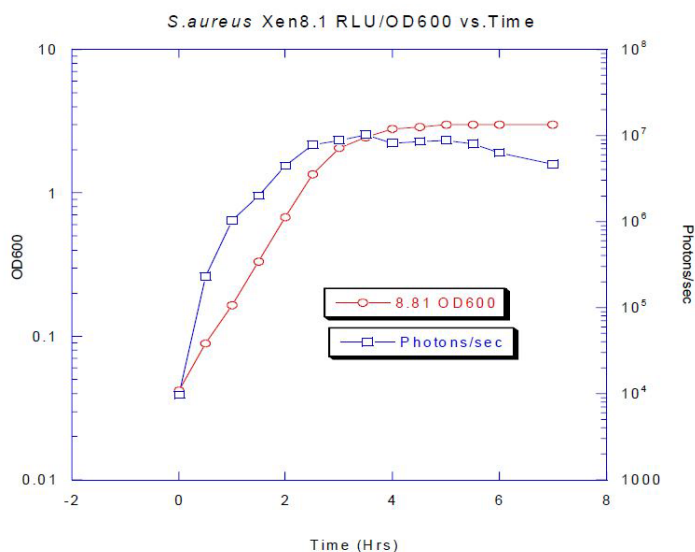
Colonial Morphology

On LB agar, *S. aureus*-Xen8.1 appears as small (~1.5mm), cream-colored, opaque, smooth, circular colonies.

Growth Curve

S. aureus-Xen8.1 displays peak bioluminescence during early log-phase growth. Log-phase growth can be achieved after 1 to 1.5 hours of subculture in LB broth at 37°C, shaking at 150-200 rpm. For

these broth culture conditions, an absorbance measurement at 600nm (against a LB blank) of 0.6 is roughly equivalent to 5×10^8 cfu/mL of *S. aureus*-Xen8.1 and the relative light intensity is 0.9 photons/sec/cell.



Virulence Factors

Hemolysis: β -hemolysis on TSA + 5% sheep blood

Capsule: literature cites that parental lacks a capsule (CP5 negative), cap5 mutant FEMS Microbiol Lett 1999 Jan 1;170(1):97-103.

DNase: Negative

NaCl: Tolerant via growth Mannitol Salts Agar

Coagulase: Positive in 24hrs

Biochemical Profile

A biochemical profile was obtained for *S. aureus*-Xen8.1 using the api 20 STAPH system available from bioMérieux.

Sugar Utilization	
D-Glucose	+
D-Fructose	+
D-Mannose	+
Maltose	+
Lactose	+
Trehalose	+
D-Mannitol	+
Xylitol	-
Raffinose	-
Xylose	-
D-Melibiose	+
Sucrose	+

Other Tests	
Nitrate Reduction	+
Alkaline Phosphatase	+
Voges Proskauer	-
α -methyl-D-glucoside	-
N-acetyl-glucoside	+
Arginine dihydrolase	+
Urease	+

Antibiotic Susceptibility

Disk Diffusion Data Disk diffusion tests were performed according to methods outlined in the NCCLS Approved Standard M2-A7.

Kirby-Bauer Disk Diffusion Test	
Sensitive to:	Resistant to:
Carbenicillin 100	Kanamycin 30
Gentamicin 20	
Penicillin G 10U	
Vancomycin 30	

For more information, please visit our website: www.perkinelmer.com/microorganisms.

PerkinElmer, Inc.
940 Winter Street
Waltham, MA 02451 USA
P: (800) 762-4000 or
(+1) 203-925-4602
www.perkinelmer.com

MIC and MBC Data

MIC and MBC were determined using the macro-dilution methods specified in the NCCLS Approved Standard M7-A5.

NCCLS Macrodilution MIC/MBC		
Antibiotic	MIC ($\mu\text{g/mL}$)	MBC ($\mu\text{g/mL}$)
Ceftriaxone	>32	NA
Ciprofloxacin	>8.0	NA
Erythromycin	1.0	1.0
Gentamicin	2.0-4.0	4.0-8.0
Kanamycin	>125	NA
Penicillin G	0.013-0.063	0.063-0.125
Tetracycline	0.25	0.5 (trailing endpoint)

References

1. Photochem. Photobiol. Sci., 2004, 3, 451 – 458
2. Photochem. Photobiol. Sci., 2005, 4, 503 – 509
3. Biomaterials, Volume 27, Issue 22, August 2006, Pages 4157-4164
4. Wound repair and regeneration, Volume 16 Issue 3, Pages 425 - 431

Product Information

Warranty

PerkinElmer warrants that cells will be viable upon shipment from PerkinElmer for a period of thirty days, provided they have been properly stored and handled during this period.

Disclaimers

This product is sold for *in vivo* animal research use only and is not for use in any diagnostic procedures. Excluding purchases by authorized PerkinElmer distributors, this product is sold for use by the original purchaser and is not for resale.



For a complete listing of our products, visit www.perkinelmer.com.

Copyright ©2015, PerkinElmer, Inc. All rights reserved. PerkinElmer® is a registered trademark of PerkinElmer, Inc. All other trademarks are the property of their respective owners.