Supplementary information for

Genetic diversity among *S. aureus* isolates showing oxacillin and/or cefoxitin resistance not linked to the presence of *mec* genes

M. Angeles Argudín[a#], S. Roisin[a], L. Nienhaus[a], M. Dodémont[a],

R. de Mendonça[a], C. Nonhoff[a], A. Deplano[a], O. Denis[a,b]

[a] National Reference Centre – *Staphylococcus aureus*, Department of Microbiology, Hôpital Erasme, Université Libre de Bruxelles, Route de Lennik 808, 1070 Brussels, Belgium

[b] Ecole de Santé Publique, Université Libre de Bruxelles, Avenue Franklin Roosevelt 50, 1050 Brussels, Belgium

#Address correspondence to M. A. Argudín, maria.argudin@erasme.ulb.ac.be

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Supplementary: Materials and Methods

The *pbp1*, *pbp2*, *pbp3*, *pbp4*, *gdpP* and *yjbH* genes and the *pbp4* promoter were amplified and sequenced using primers previously described (**Table S1**). Amplicons were obtained by using the PCR Master Mix Promega Benelux BV, and later purified with the illustra™ ExoStar™ 1-Step kit (GE Healthcare). Custom primers were designed to sequence each entire gene. Sequencing was performed by using the Dye Terminator DNA sequencing kit V1.1 (Applied Biosystems) followed by a purification using the Performa DTR Ultra 96-well Plate kit (Edge Bio). Sequences were assembled and analysed using the BioNumerics 7.6 software (Applied Maths). The sequences obtained were compared to available sequences of reference strains from the NCBI database (1). The strains ATCC 25923, ATCC 9144, NCTC 8325 and MSSA 476 were used as reference for *pbp*1, *pbp2*, *pbp3*, *pbp4* (including its promoter), *gdpP* and *yjbH* genes.

Table S1. Oligonucleotides used for sequencing in this study.

Gene detected	Primers	Sequence (5'-3')	Reference
pbp1	pbp1_Fw	GATACGCGAGGAAAGATTGC	(2)
	pbp1_Rv	TTTACGGCATAAGAGGCCAG	(2)
pbp2[a]	pbp2_Fw	TCGAAGTATTTTGGAAGAG	(2)
	pbp2_Rv	GTGAATGACTGATTTTACG	(2)
	pbp2_Fw2	AAAGTGAGGACCGCGTATGAC	(3)
	pbp2_Rv2	AGCACCGTAAGTACCAGTACC	(3)
pbp3	pbp3_Fw	GTATGATTACTTGTTCGGTCTC	(2)
	pbp3_Rv	CAACCATGCGCTACACAATC	(2)
pbp4[b]	AbcA-UpF	TGATTTGCTGCTTGTACAGG	(4)
	P1	CAGATTGTGTACTTGTCGATATCTTTTG	(5)
	pbp4_Fw	GAGTAAGTTTGCTCTTCG	(2)
	pbp4_Rv	GTACAGAAGGCATTTCGACG	(2)
gdpP	gdpP_Fw1	CCTACGACGCATATTGTAGGAC	(3)
	gdpP_Rev	GCTTCGGCAATTTGTTTTGT	(6)
yjbIH	yjbIH_SA2	CTGCACTACGCATAAGAGTTAAAG	(7)
	yjbIH_SA3	CCGGATCCACACTTCTATATGAATTATTATG	(7)

[a] Two different pair of primers were used for amplified the entire *pbp2* gene region.
[b] Two different pair of primers were used for amplified the entire *pbp4* gene and its promotor region.

Supplementary: Nucleotide accession numbers

Table S2. Nucleotide accession numbers of the sequences generated in this study and deposited in GenBank.

Strain	Gene	Nucleotide accession number
BORSA-001	*pbp1*	MF070915.1
	pbp2	MF070947.1
	pbp3	MF070979.1
	pbp4	MF071011.1
	gdpP	MF071075.1
	yjbIH	MF071043.1
BORSA-002	*pbp1*	MF070916.1
	pbp2	MF070948.1
	pbp3	MF070980.1
	pbp4	MF071012.1
	gdpP	MF071076.1
	yjbIH	MF071044.1
BORSA-003	*pbp1*	MF070917.1
	pbp2	MF070949.1
	pbp3	MF070981.1
	pbp4	MF071013.1
	gdpP	MF071077.1
	yjbIH	MF071045.1
BORSA-004	*pbp1*	MF070918.1
	pbp2	MF070950.1
	pbp3	MF070982.1
	pbp4	MF071014.1
	gdpP	MF071078.1
	yjbIH	MF071046.1
BORSA-005	*pbp1*	MF070919.1
	pbp2	MF070951.1
	pbp3	MF070983.1
	pbp4	MF071015.1
	gdpP	MF071079.1
	yjbIH	MF071047.1
BORSA-006	*pbp1*	MF070920.1
	pbp2	MF070952.1
	pbp3	MF070984.1
	pbp4	MF071016.1
	gdpP	MF071080.1
	yjbIH	MF071048.1
BORSA-007	*pbp1*	MF070921.1
	pbp2	MF070953.1
	pbp3	MF070985.1
	pbp4	MF071017.1
	gdpP	MF071081.1
	yjbIH	MF071049.1
BORSA-008	*pbp1*	MF070922.1
	pbp2	MF070954.1
	pbp3	MF070986.1
	pbp4	MF071018.1
	gdpP	MF071082.1
	yjbIH	MF071050.1
BORSA-009	*pbp1*	MF070923.1
	pbp2	MF070955.1
	pbp3	MF070987.1
	pbp4	MF071019.1
	gdpP	MF071083.1
	yjbIH	MF071051.1
BORSA-010	*pbp1*	MF070924.1
	pbp2	MF070956.1
	pbp3	MF070988.1
	pbp4	MF071020.1
	gdpP	MF071084.1
	yjbIH	MF071052.1
BORSA-011	*pbp1*	MF070925.1
	pbp2	MF070957.1
	pbp3	MF070989.1
	pbp4	MF071021.1
	gdpP	MF071085.1
	yjbIH	MF071053.1
BORSA-012	*pbp1*	MF070926.1
	pbp2	MF070958.1
	pbp3	MF070990.1
	pbp4	MF071022.1
	gdpP	MF071086.1
	yjbIH	MF071054.1
BORSA-013	*pbp1*	MF070927.1
	pbp2	MF070959.1
	pbp3	MF070991.1
	pbp4	MF071023.1
	gdpP	MF071087.1
	yjbIH	MF071055.1
BORSA-014	*pbp1*	MF070928.1
	pbp2	MF070960.1
	pbp3	MF070992.1
	pbp4	MF071024.1
	gdpP	MF071088.1
	yjbIH	MF071056.1

Strain	Gene	Nucleotide accession number
BORSA-015	*pbp1*	MF070929.1
	pbp2	MF070961.1
	pbp3	MF070993.1
	pbp4	MF071025.1
	gdpP	MF071089.1
	yjbIH	MF071057.1
BORSA-016	*pbp1*	MF070930.1
	pbp2	MF070962.1
	pbp3	MF070994.1
	pbp4	MF071026.1
	gdpP	MF071090.1
	yjbIH	MF071058.1
BORSA-017	*pbp1*	MF070931.1
	pbp2	MF070963.1
	pbp3	MF070995.1
	pbp4	MF071027.1
	gdpP	MF071091.1
	yjbIH	MF071059.1
BORSA-018	*pbp1*	MF070932.1
	pbp2	MF070964.1
	pbp3	MF070996.1
	pbp4	MF071028.1
	gdpP	MF071092.1
	yjbIH	MF071060.1
BORSA-019	*pbp1*	MF070933.1
	pbp2	MF070965.1
	pbp3	MF070997.1
	pbp4	MF071029.1
	gdpP	MF071093.1
	yjbIH	MF071061.1
BORSA-020	*pbp1*	MF070934.1
	pbp2	MF070966.1
	pbp3	MF070998.1
	pbp4	MF071030.1
	gdpP	MF071094.1
	yjbIH	MF071062.1
BORSA-021	*pbp1*	MF070935.1
	pbp2	MF070967.1
	pbp3	MF070999.1
	pbp4	MF071031.1
	gdpP	MF071095.1
	yjbIH	MF071063.1
BORSA-022	*pbp1*	MF070936.1
	pbp2	MF070968.1
	pbp3	MF071000.1
	pbp4	MF071032.1
	gdpP	MF071096.1
	yjbIH	MF071064.1

Strain	Gene	Nucleotide accession number
BORSA-023	*pbp1*	MF070937.1
	pbp2	MF070969.1
	pbp3	MF071001.1
	pbp4	MF071033.1
	gdpP	MF071097.1
	yjbIH	MF071065.1
BORSA-024	*pbp1*	MF070938.1
	pbp2	MF070970.1
	pbp3	MF071002.1
	pbp4	MF071034.1
	gdpP	MF071098.1
	yjbIH	MF071066.1
BORSA-025	*pbp1*	MF070939.1
	pbp2	MF070971.1
	pbp3	MF071003.1
	pbp4	MF071035.1
	gdpP	MF071099.1
	yjbIH	MF071067.1
BORSA-026	*pbp1*	MF070940.1
	pbp2	MF070972.1
	pbp3	MF071004.1
	pbp4	MF071036.1
	gdpP	MF071100.1
	yjbIH	MF071068.1
BORSA-027	*pbp1*	MF070941.1
	pbp2	MF070973.1
	pbp3	MF071005.1
	pbp4	MF071037.1
	gdpP	MF071101.1
	yjbIH	MF071069.1
BORSA-028	*pbp1*	MF070942.1
	pbp2	MF070974.1
	pbp3	MF071006.1
	pbp4	MF071038.1
	gdpP	MF071102.1
	yjbIH	MF071070.1
BORSA-029	*pbp1*	MF070943.1
	pbp2	MF070975.1
	pbp3	MF071007.1
	pbp4	MF071039.1
	gdpP	MF071103.1
	yjbIH	MF071071.1
BORSA-030	*pbp1*	MF070944.1
	pbp2	MF070976.1
	pbp3	MF071008.1
	pbp4	MF071040.1
	gdpP	MF071104.1
	yjbIH	MF071072.1

Strain	Gene	Nucleotide accession number
BORSA-031	*pbp1*	MF070945.1
	pbp2	MF070977.1
	pbp3	MF071009.1
	pbp4	MF071041.1
	gdpP	MF071105.1
	yjbIH	MF071073.1

Strain	Gene	Nucleotide accession number
BORSA-032	*pbp1*	MF070946.1
	pbp2	MF070978.1
	pbp3	MF071010.1
	pbp4	MF071042.1
	gdpP	MF071106.1
	yjbIH	MF071074.1

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