Table S1. Antimicrobial susceptibility profile of the *Staphylococcus aureus* isolates from milk and nasal/muzzles swabs samples performed by the automated Vitek 2® compact system by minimum inhibitory concentration.

Antimicrobial (range of concentrations tested)	MIC BP (µg mL^{-1})	Origin Milk = 182 Swab = 7	Resistant (%)	Number and percentage of isolates at each indicated MIC value (µg mL^{-1})																				
				0.03	0.06	0.25	0.5	1	2	4	5	8	10	16	20	32	40	64	80	128	160	256	320	512
Fusidic acid[2] (0.5 – 32 µg mL^{-1})	≥ 1	Milk	3.85	3.85	–	–	–	173 (95.05)	2 (1.10)		1 (0.55)	–	1 (0.55)	–	1 (0.55)	–	4 (2.20)	–	1	–	–	–	–	–
		Swab	0	0				7 (100)																
Ampicillin/Sullbactam[1] (2.0 – 32 µg mL^{-1})	≥ 16	Milk	1.10	1.10	–	–	–	–	–	175 (96.15)	4 (2.20)	–	1 (0.55)	–	2 (1.10)	–		–	–	–	–	–	–	–
		Swab	0	0						7 (100)														
Benzylpenicillin[1] (0.03125 – 0.5 µg mL^{-1})	≥ 0.25	Milk	94.50	94.50	9 (4.95)	1 (0.55)	1 (0.55)	171 (93.95)	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
		Swab	0	0	7 (100)																			
Clindamycin[1] (0.25 – 8.0 µg mL^{-1})	≥ 4	Milk	2.20	2.20	–	–	175 (96.15)	1 (0.55)		2 (1.10)		–	4 (2.20)	–	–	–	–	–	–	–	–	–	–	–
		Swab	14.29	14.29			6 (85.71)						1 (14.29)											

Inducible resistance to clindamycin[1]		Milk Swab	0 0	0 0																			
Chloramphenicol[1] (4.0 – 64 µg mL^{-1})	≥ 32	Milk Swab	0 0	0 0	–	–	–	–	–		102 (56.04) 1 (14.29)	–	79 (43.41) 6 (85.71)	1 (0.55)		–		–		–	–	–	–	–
Enrofloxacin[1] (0.5 – 4.0 µg mL^{-1})	≥ 4	Milk Swab	0 0	0 0	–	–	–	172 (94.50) 7 (100)	**8 (4.40)**	**2 (1.10)**		–	–	–	–	–	–	–	–	–	–	–	–	–
Erythromycin[1] (0.25 – 8.0 µg mL^{-1})	≥ 8	Milk Swab	3.85 14.29	3.85 14.29	–	–	174 (95.60) 6 (85.71)	1 (0.55)				–	**7 (3.85)** **1 (14.29)**	–	–	–	–	–	–	–	–	–	–	–
Gentamicin[1] (0.5 – 16 µg mL^{-1})	≥ 16	Milk Swab	80 0	80 0	–	–		101 (55.49) 7 (100)	1 (0.55)						**80 (43.96)**									

Imipenem (1.0 – 16 µg mL^{-1})	NA	Milk Swab			–	–	–	–	182 (100) 7 (100)			–		–		–		–	–	–	–	–	–	–
Kanamycin[1] (4.0 – 64 µg mL^{-1})	≥ 64	Milk Swab	43.96 0	43.96 0	–	–	–	–	–	–	101 (55.49) 7 (100)	–	1 (0.55)	–		–		–	**80 (43.96)**	–	–	–	–	–
Marbofloxacin[1] (0.5 – 4.0 µg mL^{-1})	≥ 4	Milk Swab	0 0	0 0	–	–		173 (95.05) 6 (85.71)	**3 (1.65)** **1 (14.29)**	**6 (3.30)**		–	–	–	–	–	–	–	–	–	–	–	–	–
Mupirocin[2] (2.0 – 512 µg mL^{-1})	≥ 256	Milk Swab	1.10 0	1.10 0	–	–	–	–	–	172 (94.50) 7 (100)		–		–		–		–	**8 (4.40)**	–		–		–
Nitrofurantoin[1] (16.0 – 512 µg mL^{-1})	≥ 128	Milk Swab	0.55 14.29	0.55 14.29	–	–	–	–	–	–	–	–	–	–	174 (95.60) 6 (85.71)		4 (2.20)	–		–	**3 (1.65)**	–	**1 (0.55)** **1 (14.29)**	–
Rifamycin[1] (0.5 – 32 µg mL^{-1})	≥ 4	Milk Swab	2.2 0	2.2 0	–	–	–	175 (96.15) 7 (100)	2 (1.10)	**1 (0.55)**		–		–	**1 (0.55)**	–	**3 (1.65)**	–	–	–	–	–	–	–

Tetracycline[1] (1.0 – 16 µg mL^{-1})	≥ 16	Milk	43.96	43.96	–	–	–	–	94 (51.64)	6 (3.30)	1 (0.55)	–	**1 (0.55)**	–	**80 (43.96)**	–	–	–	–	–	–	–	–	–
		Swab	0	0					6 (85.71)	1 (14.29)														
Trimethroprim/ sulfamethaxazole[2] (10.0 – 320 µg mL^{-1})	≥ 80	Milk	0.55	0.55	–	–	–	–	–	–	–	–	–	178 97.80)	–	3 (1.65)	–		–		–		–	**1 (0.55)**
		Swab	0	0										1 (85.71)		1 (14.29)								
Vancomycin[1] (0.5 – 32 µg mL^{-1})	≥ 16	Milk	3.30	3.30	–	–	–	88 (48.35)	78 (42.86)	10 (5.49)		–		–		–	**6 (3.30)**	–	–	–	–	–	–	–
		Swab	0	0				5 (71.43)	2 (28.57)															
Oxacillin[1] (0.25 – 4.0 µg mL^{-1})	≥ 4	Milk	4.40	4.40	–	–	162 (89.01)	11 (6.04)		1 (0.55)	**8 (4.40)**	–	–	–	–	–	–	–	–	–	–	–	–	–
		Swab	0	0			7 (100)																	
Cefoxitin screening	≥ 8	Milk	2.20	2.20																				
		Swab	14.29	14.29																				

MIC: minimal inhibitory concentration. BP: MIC breakpoint, which is defined as the lowest concentration of an antimicrobial necessary to inhibit visible growth. [1]MIC breakpoints established by the Clinical & Laboratory Standards Institute (CLSI) guidelines (CLSI, 2018a and 2018b). [2]MIC breakpoints established by the European Committee on Antimicrobial Susceptibility Testing (EUCAST, 2019). Values in bold indicate intermediate resistance to that antimicrobial. Values in bold and red indicate resistance to that antimicrobial. Swab: nasal swab. NA: not available. Dashes indicate values not tested for the indicated antimicrobial.