

Supplementary Material

1 Supplementary Figures and Tables

Table S1: Summary of the whole genome sequenced isolates recovered from general public settings in East and West London

Accession No.	Isolate No	Species	Area isolated
ERS2999996 (SAMEA5192505)	1	<i>Staphylococcus haemolyticus</i>	East London Community
ERS2999997 (SAMEA5192506)	27	<i>Staphylococcus sciuri</i>	East London Community
ERS2999998 (SAMEA5192507)	33	<i>Staphylococcus sciuri</i>	East London Community
ERS2999999 (SAMEA5192508)	59	<i>Staphylococcus sciuri</i>	East London Community
ERS3000000 (SAMEA5192509)	74	<i>Staphylococcus sciuri</i>	East London Community
ERS3000001 (SAMEA5192510)	75	<i>Staphylococcus sciuri</i>	East London Community
ERS3000002 (SAMEA5192511)	93	<i>Staphylococcus haemolyticus</i>	East London Community
ERS3000003 (SAMEA5192512)	99	<i>Staphylococcus haemolyticus</i>	East London Community
ERS3000004 (SAMEA5192513)	105	<i>Staphylococcus haemolyticus</i>	East London Community
ERS3000005 (SAMEA5192514)	109	<i>Staphylococcus sciuri</i>	East London Community
ERS3000006 (SAMEA5192515)	207	<i>Staphylococcus hominis</i>	West London Community
ERS3000007 (SAMEA5192516)	208	<i>Staphylococcus hominis</i>	West London Community
ERS3000008 (SAMEA5192517)	209	<i>Staphylococcus hominis</i>	West London Community
ERS3000009 (SAMEA5192518)	211	<i>Staphylococcus cohnii</i>	West London Community
ERS3000010 (SAMEA5192519)	321	<i>Staphylococcus epidermidis</i>	East London Hospital
ERS3000011 (SAMEA5192520)	327	<i>Staphylococcus epidermidis</i>	East London Hospital
ERS3000012 (SAMEA5192521)	329	<i>Staphylococcus epidermidis</i>	East London Hospital
ERS3000013 (SAMEA5192522)	343	<i>Staphylococcus cohnii</i>	East London Hospital
ERS3000014 (SAMEA5192523)	349	<i>Staphylococcus cohnii</i>	East London Hospital

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ERS3000015 (SAMEA5192524)	355	<i>Staphylococcus epidermidis</i>	East London Hospital
ERS3000016 (SAMEA5192525)	361	<i>Staphylococcus haemolyticus</i>	East London Hospital
ERS3000017 (SAMEA5192526)	372	<i>Staphylococcus hominis</i>	East London Hospital
ERS3000018 (SAMEA5192527)	373	<i>Staphylococcus haemolyticus</i>	East London Hospital
ERS3000019 (SAMEA5192528)	385	<i>Staphylococcus hominis</i>	East London Hospital
ERS3000020 (SAMEA5192529)	386	<i>Staphylococcus hominis</i>	East London Hospital
ERS3000021 (SAMEA5192530)	387	<i>Staphylococcus hominis</i>	East London Hospital
ERS3000022 (SAMEA5192531)	407	<i>Staphylococcus epidermidis</i>	East London Hospital
ERS3000023 (SAMEA5192532)	435	<i>Staphylococcus epidermidis</i>	West London Hospital
ERS3000024 (SAMEA5192533)	436	<i>Staphylococcus haemolyticus</i>	West London Hospital
ERS3000025 (SAMEA5192534)	445	<i>Staphylococcus haemolyticus</i>	West London Hospital
ERS3000026 (SAMEA5192535)	465	<i>Staphylococcus epidermidis</i>	West London Hospital
ERS3000027 (SAMEA5192536)	475	<i>Staphylococcus epidermidis</i>	West London Hospital
ERS3000028 (SAMEA5192537)	479	<i>Staphylococcus hominis</i>	West London Hospital
ERS3000029 (SAMEA5192538)	492	<i>Staphylococcus haemolyticus</i>	West London Hospital
ERS3000030 (SAMEA5192539)	506	<i>Staphylococcus haemolyticus</i>	West London Hospital
ERS3000031 (SAMEA5192540)	538	<i>Staphylococcus haemolyticus</i>	West London Hospital
ERS3000032 (SAMEA5192541)	620	<i>Staphylococcus hominis</i>	West London Hospital
ERS3000033 (SAMEA5192542)	623	<i>Staphylococcus hominis</i>	West London Hospital
ERS3000034 (SAMEA5192543)	631	<i>Staphylococcus epidermidis</i>	West London Hospital
ERS3000035 (SAMEA5192544)	664	<i>Staphylococcus epidermidis</i>	West London Hospital
ERS3000036 (SAMEA5192545)	673	<i>Staphylococcus epidermidis</i>	West London Hospital
ERS3000037 (SAMEA5192546)	699	<i>Staphylococcus warneri</i>	West London Hospital

ERS3000038 (SAMEA5192547)	700	<i>Staphylococcus warneri</i>	West London Hospital
ERS3000039 (SAMEA5192548)	702	<i>Staphylococcus warneri</i>	West London Hospital
ERS3000040 (SAMEA5192549)	711	<i>Staphylococcus epidermidis</i>	West London Hospital
ERS3000041 (SAMEA5192550)	712	<i>Staphylococcus epidermidis</i>	West London Hospital
ERS3000042 (SAMEA5192551)	713	<i>Staphylococcus epidermidis</i>	West London Hospital
ERS3000043 (SAMEA5192552)	715	<i>Staphylococcus epidermidis</i>	West London Hospital
ERS3000044 (SAMEA5192553)	716	<i>Staphylococcus epidermidis</i>	West London Hospital

Table S2: Summary of the isolates used for phylogenetic analyses

Isolate name	Species	Accession number	Source
SE2.9	<i>S. epidermidis</i>	JRVN01000000	Rice seed
SE4.7	<i>S. epidermidis</i>	JRVP01000000	Rice seed
SE4.6	<i>S. epidermidis</i>	JRVO01000000	Rice seed
SE4.8	<i>S. epidermidis</i>	JRVQ01000000	Rice seed
UC7032	<i>S. epidermidis</i>	ARWU01000000	Cured meat
CIM40	<i>S. epidermidis</i>	ATCW02000000	Mouse skin
APO27	<i>S. epidermidis</i>	ATCU02000000	Mouse skin
CIM28	<i>S. epidermidis</i>	ATDF02000000	Mouse skin
APO35	<i>S. epidermidis</i>	ATCV02000000	Mouse
NIHLM057	<i>S. epidermidis</i>	AKGO01000000	Human Occiput
VCU128	<i>S. epidermidis</i>	AHLI01000000	Clinical airways
NW32	<i>S. epidermidis</i>	LJIF01000000	Cow milk
NIHLM015	<i>S. epidermidis</i>	AKGZ01000000	Human
NIHLM037	<i>S. epidermidis</i>	AKGT01000000	Human
14.1.R1	<i>S. epidermidis</i>	CP018842	Human skin
MRSE 52-2	<i>S. epidermidis</i>	NTLC01000000	Human nasopharynx
NIHLM023	<i>S. epidermidis</i>	AKGU01000000	Human toe web
S2 005 003 R3 50	<i>S. epidermidis</i>	QFPG01000000	Hospital surfaces and sink
M01	<i>S. epidermidis</i>	LYWE01000000	Cowhouse
ZSC	<i>S. epidermidis</i>	PHHR01000000	Groundwater
y24	<i>S. epidermidis</i>	NRSY01000000	Bovine mastitis milk
PR246B0	<i>S. epidermidis</i>	PCFD01000000	Pig rectum
M25	<i>S. epidermidis</i>	LYWF01000000	Cowhouse
FDAARGOS-161	<i>S. epidermidis</i>	CP014132	Clinical Peripheral blood

Isolate name	Species	Accession number	Source
1457	<i>S. epidermidis</i>	CP020463	Central venous catheter
AG42	<i>S. epidermidis</i>	JNLI01000000	Animal Sheep rumen
Sc125	<i>S. epidermidis</i>	ATDC02000000	Mouse skin
CSF41498	<i>S. epidermidis</i>	CP030246	Clinical cerebrospinal fluid (meningitis)
SNUT	<i>S. epidermidis</i>	LQRB01000000	Toluene treated bioreactor sludge
ATCC 12228	<i>S. epidermidis</i>	CP022247	Human skin and mucosal
PM221	<i>S. epidermidis</i>	HG813242	Cow
SNUC 5038	<i>S. epidermidis</i>	PYYR01000000	Cow
SNUC 75	<i>S. epidermidis</i>	PYZF01000000	Cow
FDAARGOS-83	<i>S. epidermidis</i>	JTAY02000000	Clinical (urine)
RP62A	<i>S. epidermidis</i>	CP000029	Clinical (intravascular catheter-associated sepsis)
SRR1182420	<i>S. epidermidis</i>	SRR1182420	Clinical blood
ET-024	<i>S. epidermidis</i>	JGVL01000000	Endotracheal tube biofilm of a mechanically ventilated patient
SRR1182422	<i>S. epidermidis</i>	SRR1182422	Clinical (blood)
SRR1182424	<i>S. epidermidis</i>	SRR1182424	Clinical (blood)
SRR1182423	<i>S. epidermidis</i>	SRR1182423	Clinical (blood)
SRR1182419	<i>S. epidermidis</i>	SRR1182419	Clinical (blood)
SRR1182413	<i>S. epidermidis</i>	SRR1182413	Clinical (blood)
VCU037	<i>S. epidermidis</i>	AFTY01000000	Clinical human airways
M0881	<i>S. epidermidis</i>	AOAJ01000000	Human Skin
VCU045	<i>S. epidermidis</i>	AFEI01000000	Clinical (human airways)
FDAARGOS 153	<i>S. epidermidis</i>	CP014119	Clinical (peripheral blood)
764 SEPI	<i>S. epidermidis</i>	JUTX01000000	Clinical
M0026	<i>S. epidermidis</i>	JBVX01000000	Clinical (blood)
NIH06004	<i>S. epidermidis</i>	AKHH01000000	Clinical(blood)
NIH08001	<i>S. epidermidis</i>	AKHG01000000	Clinical (blood)
SRR1182399	<i>S. epidermidis</i>	SRR1182399	Clinical (blood)
SRR1182398	<i>S. epidermidis</i>	SRR1182398	Clinical (blood)

Isolate name	Species	Accession number	Source
SRR1182400	<i>S. epidermidis</i>	SRR1182400	Clinical (blood)
SRR1182371	<i>S. epidermidis</i>	SRR1182371	Clinical (blood)
SRR1182410	<i>S. epidermidis</i>	SRR1182410	Clinical (blood)
SRR1182401	<i>S. epidermidis</i>	SRR1182401	Clinical (blood)
SRR1182412	<i>S. epidermidis</i>	SRR1182412	Clinical (blood)
SRR1182418	<i>S. epidermidis</i>	SRR1182418	Clinical (blood)
SRR1182416	<i>S. epidermidis</i>	SRR1182416	Clinical (blood)
BPH0662	<i>S. epidermidis</i>	LT571449	Clinical
DAR1907	<i>S. epidermidis</i>	CP013943	Clinical (blood)
ENVH131	<i>S. epidermidis</i>	LYVR01000000	Hospital environment
ENVH150	<i>S. epidermidis</i>	LYVW01000000	Hospital environment
LRKNS114	<i>S. epidermidis</i>	LZEO01000000	Hospital environment
LRKNS116	<i>S. epidermidis</i>	LZEQ01000000	Hospital environment
LRKNS117	<i>S. epidermidis</i>	LZER01000000	Hospital environment
SH06_17	<i>S. epidermidis</i>	PHKN01000000	Clinical (blood)
SH03_17	<i>S. epidermidis</i>	PHKH01000000	Clinical (blood)
SH07_17	<i>S. epidermidis</i>	PHKM01000000	Clinical (blood)
760 SEPI	<i>S. epidermidis</i>	JUUB01000000	Clinical
SNUC 3608	<i>S. epidermidis</i>	QXSP01000000	Cow
SNUC 901.1	<i>S. epidermidis</i>	PYYQ01000000	Cow
B45679-10	<i>S. epidermidis</i>	MVFFV01000000	Clinical (blood)
FDAARGOS 148	<i>S. haemolyticus</i>	LORN02000000	Clinical (blood)
DNF00585	<i>S. haemolyticus</i>	JRNK01000000	Clinical (vagina)
Z52	<i>S. haemolyticus</i>	PHHQ01000000	Groundwater
SW007	<i>S. haemolyticus</i>	MTIZ01000000	Dog
SNUC 128	<i>S. haemolyticus</i>	PZIV01000000	Cow
SNUC 1317	<i>S. haemolyticus</i>	PZIP01000000	Cow

Isolate name	Species	Accession number	Source
SNUC 1450	<i>S. haemolyticus</i>	PZIL01000000	Cow
C10F	<i>S. haemolyticus</i>	JQHA01000000	Clinical (sputum)
SNUC 1408	<i>S. haemolyticus</i>	PZIM01000000	Cow
2263-3461	<i>S. haemolyticus</i>	CUEO01000000	Clinical (teat)
SNUC 4966	<i>S. haemolyticus</i>	PZIC01000000	Cow
SNUC 1584	<i>S. haemolyticus</i>	PZIK01000000	Cow
IPK TSA25	<i>S. haemolyticus</i>	NDWY01000000	Surface area of a building with less than 200 occupants
M-176	<i>S. haemolyticus</i>	CUEQ01000000	Clinical blood
OG2	<i>S. haemolyticus</i>	NCXH01000000	Kefir
RIT283	<i>S. haemolyticus</i>	JFOJ01000000	Willow
S167	<i>S. haemolyticus</i>	CP013911	Leaf vegetable
MTCC 3383	<i>S. haemolyticus</i>	LILF01000000	Human waste and hygiene compartment of International Space Station
IIF2SW-P5	<i>S. haemolyticus</i>	MIZW01000000	
R1P1	<i>S. haemolyticus</i>	AJVA01000000	Copper alloy coin
SH1752	<i>S. haemolyticus</i>	LRHN01000000	Clinical infected eye
95671	<i>S. haemolyticus</i>	CUFA01000000	Central venous catheter
SGAir0252	<i>S. haemolyticus</i>	CP025031	Tropical air samples collected in Singapore
SHN36	<i>S. haemolyticus</i>	LRBN01000000	Healthy eye
BC05211	<i>S. haemolyticus</i>	MRUZ01000000	Bovine milk
8074328	<i>S. haemolyticus</i>	CUFG01000000	Clinical blood
1HT3	<i>S. haemolyticus</i>	LAKG01000000	Clinical Colon
115601	<i>S. haemolyticus</i>	CUHH01000000	Central venous catheter
ERR085179	<i>S. haemolyticus</i>	ERR085179	Clinical
SRR1182430	<i>S. haemolyticus</i>	SRR1182430	Clinical
SRR1182429	<i>S. haemolyticus</i>	SRR1182429	Clinical
SRR1182428	<i>S. haemolyticus</i>	SRR1182428	Clinical
SRR1182432	<i>S. haemolyticus</i>	SRR1182432	Clinical

Isolate name	Species	Accession number	Source
SRR1182431	<i>S. haemolyticus</i>	SRR1182431	Clinical
ERR085182	<i>S. haemolyticus</i>	ERR085182	Clinical
JCSC1435	<i>S. haemolyticus</i>	NC_007168	Human
51-30	<i>S. haemolyticus</i>	CUDO01000000	Clinical (blood)
ERR085171	<i>S. haemolyticus</i>	ERR085171	Clinical
25-12	<i>S. haemolyticus</i>	CUCI01000000	Clinical (blood)
ERR085165	<i>S. haemolyticus</i>	ERR085165	Clinical
ERR085166	<i>S. haemolyticus</i>	ERR085166	Clinical
ERR085174	<i>S. haemolyticus</i>	ERR085174	Clinical
ERR085170	<i>S. haemolyticus</i>	ERR085170	Clinical
ERR085168	<i>S. haemolyticus</i>	E RR085168	Clinical
ERR085173	<i>S. haemolyticus</i>	ERR085173	Clinical
ERR085169	<i>S. haemolyticus</i>	ERR085169	Clinical
ERR085172	<i>S. haemolyticus</i>	ERR085172	Clinical
SH1574	<i>S. haemolyticus</i>	LRBM01000000	Clinical eye
NW19	<i>S. haemolyticus</i>	MRUY01000000	Bovine milk
SH747	<i>S. haemolyticus</i>	LRHM01000000	Clinical eye
105731	<i>S. haemolyticus</i>	CUHI01000000	Catheter
0894-2001-2009	<i>S. haemolyticus</i>	QVPX01000000	Umbilical wound
G811N2B1	<i>S. haemolyticus</i>	PGWX01000000	Human nares
285 SHAE	<i>S. haemolyticus</i>	JVMX01000000	Clinical
FDAARGOS_130	<i>S. haemolyticus</i>	LOSE02000000	Clinical
ERR085180	<i>S. haemolyticus</i>	ERR085180	Clinical
708075	<i>S. haemolyticus</i>	CUFF01000000	Clinical
AB	<i>S. haemolyticus</i>	CUEN01000000	Human nares
6682	<i>S. haemolyticus</i>	CUGF01000000	Clinical blood

Isolate name	Species	Accession number	Source
C10A	<i>S. haemolyticus</i>	JPRW01000000	Clinical sputum
A109N1B1	<i>S. haemolyticus</i>	PGWY01000000	Human nares
83131B	<i>S. haemolyticus</i>	CP025396	Clinical
83131A	<i>S. haemolyticus</i>	CP024809	Clinical
ERR085175	<i>S. haemolyticus</i>	ERR085175	Clinical
ERR085178	<i>S. haemolyticus</i>	ERR085178	Clinical
51-06	<i>S. haemolyticus</i>	CUCU01000000	Clinical (blood)
ERR085183	<i>S. haemolyticus</i>	ERR085183	Clinical
51-07	<i>S. haemolyticus</i>	CUCV01000000	Clinical (blood)
ERR085177	<i>S. haemolyticus</i>	ERR085177	Clinical
ERR085176	<i>S. haemolyticus</i>	ERR085176	Clinical
ERR085181	<i>S. haemolyticus</i>	ERR085181	Clinical
6035	<i>S. haemolyticus</i>	CUFD01000000	Clinical (blood)
6249	<i>S. haemolyticus</i>	CUFE01000000	Clinical (blood)
SNUC 3870	<i>S. hominis</i>	QXVR01000000	Cow
SNUC 5336	<i>S. hominis</i>	PZHX01000000	Cow
SNUC 4474	<i>S. hominis</i>	QXVP01000000	Cow
SNUC 2620	<i>S. hominis</i>	PZIA01000000	Cow
SNUC 5852	<i>S. hominis</i>	PZHV01000000	Cow
SNUC 3404	<i>S. hominis</i>	PZHY01000000	Cow
SNUC 2444	<i>S. hominis</i>	PZIB01000000	Cow
SNUC 5746	<i>S. hominis</i>	PZHW01000000	Cow
K1	<i>S. hominis</i>	MWPJ01000000	Bovine milk
BHG17	<i>S. hominis</i>	MPNR01000000	Goose droppings
SNUC 2694	<i>S. hominis</i>	PZHZ01000000	Cow
H69	<i>S. hominis</i>	LVVO01000000	Air from residential area
Hudgins	<i>S. hominis</i>	MAYR01000000	Human skin

Isolate name	Species	Accession number	Source
J11	<i>S. hominis</i>	FBVJ01000000	Human
C80	<i>S. hominis</i>	ACRM01000000	Human
NCTC_11320	<i>S. hominis</i>	PPQE01000000	Human
RE2.10	<i>S. hominis</i>	LWJR01000000	Rice seed
UMB0272	<i>S. hominis</i>	PKIP01000000	Human
MMP2	<i>S. hominis</i>	LNTW01000000	Ancient permafrost
KR	<i>S. hominis</i>	NGVM01000000	Kefir
As2	<i>S. hominis</i>	LFKR01000000	Whole mosquito body
As3	<i>S. hominis</i>	LFKS01000000	Whole mosquito body
As1	<i>S. hominis</i>	LFKQ01000000	Whole mosquito body
ZBW5	<i>S. hominis</i>	AKGC01000000	Human skin
CCUG 42399	<i>S. hominis</i>	PPQX01000000	Clinical (blood)
SH04_17	<i>S. hominis</i>	PHKJ01000000	Clinical (blood)
SH08_17	<i>S. hominis</i>	PHKL01000000	Clinical (blood)
LRKNS031	<i>S. hominis</i>	LXRS01000000	Clinical
SRR5482196	<i>S. hominis</i>	SRR5482196	Clinical (blood)
SRR5482200	<i>S. hominis</i>	SRR5482200	Clinical (blood)
SRR5482295	<i>S. hominis</i>	SRR5482295	Clinical (blood)
SRR5482291	<i>S. hominis</i>	SRR5482291	Clinical (blood)
SRR5482198	<i>S. hominis</i>	SRR5482198	Clinical (blood)
SRR5482201	<i>S. hominis</i>	SRR5482201	Clinical (blood)
SRR5482203	<i>S. hominis</i>	SRR5482203	Clinical (blood)

Table S3. 22 unique genes that were ubiquities to *S. hominis* isolates obtained from the ENA

Gene	Functions
<i>cadA</i>	cadmium-transporting ATPase, <i>cadA</i>
<i>ccrB3</i>	cassette chromosome recombinase B3
group_3863	hypothetical protein
group_3871	hypothetical protein
group_3872	hypothetical protein
group_3873	hypothetical protein
group_3874	hypothetical protein
group_3875	hypothetical protein
<i>ccrA3</i>	cassette chromosome recombinase A3
group_3878	hypothetical protein
group_3879	hypothetical protein
group_3880	hypothetical protein
group_3881	hypothetical protein
group_3882	hypothetical protein
group_3883	putative DNA repair protein, <i>radC</i>
<i>cadX</i>	putative cadmium efflux system accessory protein
<i>cadD</i>	cadmium resistance permease, <i>cadD</i>
<i>ricR</i>	Copper-sensing transcriptional repressor RicR
group_3890	rhodanese-like domain-containing protein
group_3901	hypothetical protein
group_3949	hypothetical protein
<i>tnpB</i>	transposition regulatory protein TnpB 1