

Majority	<u>TTACCGGTGGATGCGCTTCTGGGACTAATCTGCCTCCTTGCTTAAGTCAGGGATTGATTTAATTGATTCGAT</u>	10	20	30	40	50	60	70	80
s5483tyvD.seq	.....								80
s5439tyvD.seq	.....								89
s5415tyvD.seq	.....								94
s5406tyvD.seq	.....								94
s5395tyvD.seq	.....								80
R6540tyvD.seq	.....C								82
Majority	<u>AATCTATCACGTAAGGTGCAACAGATAATTACATTGGTATCCTCCCTAGGAAACTTGAGTTGTACATGGTATAT</u>	90	100	110	120	130	140	150	160
s5483tyvD.seq	.....								160
s5439tyvD.seq	.....								169
s5415tyvD.seq	.....								174
s5406tyvD.seq	.....								174
s5395tyvD.seq	.....								160
R6540tyvD.seq	.....								162
Majority	<u>TCGCAACAAAAATGATGTTACAAGATTAATAACTAAGTATATGCCTGATAGCTGTTTCATCTGCAGGTCAAGTGGCAA</u>	170	180	190	200	210	220	230	240
s5483tyvD.seq	.....								240
s5439tyvD.seq	.....								249
s5415tyvD.seq	.....								254
s5406tyvD.seq	.....								254
s5395tyvD.seq	.....								240
R6540tyvD.seq	.....								242
Majority	<u>TGACTACATCTTGACAATCCTGTATGGATTTGAAATTAAATGAGGTGAACTTTAAATTACTTGAGGCAGTACGG</u>	250	260	270	280	290	300	310	320
s5483tyvD.seq	.....								320
s5439tyvD.seq	.....								329
s5415tyvD.seq	.....								334
s5406tyvD.seq	.....								334
s5395tyvD.seq	.....								320
R6540tyvD.seq	.....								322
Majority	<u>CAGTATAATTCAAATTGTAATAATTATTACATCAACAAATAAGTATACGGCGATCTTGAGCAATATAAACATGA</u>	330	340	350	360	370	380	390	400
s5483tyvD.seq	.....								400
s5439tyvD.seq	.....								409
s5415tyvD.seq	.....								414
s5406tyvD.seq	.....								414
s5395tyvD.seq	.....								400
R6540tyvD.seq	.....								402
Majority	<u>AACAGAAAATAGATATACTTGTATAGATAAGCCTAATGGATATGATGAGAGCACACAATTAGATTCCACTCACCATATG</u>	410	420	430	440	450	460	470	480
s5483tyvD.seq	.....								480
s5439tyvD.seq	.....								489
s5415tyvD.seq	.....								494
s5406tyvD.seq	.....								494
s5395tyvD.seq	.....								480
R6540tyvD.seq	.....C.....G								482
Majority	<u>GTTGTTCAAAAGGTGCTGCCAGATCAATAACATGCTTGTATTATGCAAGGATT</u>	490	500	510	520	530			
s5483tyvD.seq	.....								532
s5439tyvD.seq	.....								541
s5415tyvD.seq	.....								546
s5406tyvD.seq	.....								546
s5395tyvD.seq	.....								532
R6540tyvD.seq	.....C								534

Figure S1 Alignment of 532 nt from *tyvD* for 6 serogroup O:9 (D1) isolates representing common serovars. Left hand label includes isolate identification information, e.g., s5483tyvD is isolate FSL S5-483. Sequences and isolate information can be accessed at www.foodmicrobetracker.com.

Majority	TATTATTTATTAGTAGTACAGTTGATGGGAGTATTAAATCTTGCTGAGCTAGGTATAAGTACAGCCTAACATATATCCT	
	10 20 30 40 50 60 70 80	
R6938wzxE4.seq	.....	82
R83404wzxE1.seq	.....	80
R83408wzxE1.seq	.....	82
S5438wzxE1.seq	.....	82
S5487wzxE1.seq	.....C.....	82
s5432wzxE1.seq	.....C.....	109
s5540wzxE1.seq	.....	109
s5658wzxE1.seq	.....	109
Majority	ATTTAAACCACTGCATAGAAAAGAAAAATAGTGAGTTAAGACAATTATTTATAATAAGAAAATACCATTTATAG	
	90 100 110 120 130 140 150 160	
R6938wzxE4.seq	.....	162
R83404wzxE1.seq	.....	160
R83408wzxE1.seq	.....	162
S5438wzxE1.seq	.....	162
S5487wzxE1.seq	.....	162
s5432wzxE1.seq	.....T.....	189
s5540wzxE1.seq	.....	189
s5658wzxE1.seq	.....	189
Majority	CATTGGGCATATTAGTTATTGGACTACTTTCTTTGTATTAAATCTATAGTAATGCAAGTATATCCCCTGAAAAT	
	170 180 190 200 210 220 230 240	
R6938wzxE4.seq	.....	242
R83404wzxE1.seq	.....	240
R83408wzxE1.seq	.....	242
S5438wzxE1.seq	.....	242
S5487wzxE1.seq	.....G.....	242
s5432wzxE1.seq	.....G.....	269
s5540wzxE1.seq	.....	269
s5658wzxE1.seq	.....	269
Majority	CTATATATAACATGGGGGGTCTTGTATAAGTACATCATTATCATATTATACTCTGCTCA	
	250 260 270 280 290 300	
R6938wzxE4.seq	.....A.....	304
R83404wzxE1.seq	.....	302
R83408wzxE1.seq	.....C.....	304
S5438wzxE1.seq	.....	304
S5487wzxE1.seq	.....	304
s5432wzxE1.seq	.....	331
s5540wzxE1.seq	.....	331
s5658wzxE1.seq	.....A.....	331

Figure S2 Alignment of 302 nt fragment from *wzx* for 7 serogroup O:3,10 (E1) isolates and 1 serogroup O:1,3,19 (E4) isolate. Left hand label includes isolate identification information, e.g., R6938wzxE4 is isolate FSL R6-938, representing serogroup E4. Sequences and isolate information can be accessed at www.foodmicrobetracker.com.

Table S1 Summary of molecular serotyping results for all top 40 and rare 70 *Salmonella* isolates^a

Serotype	Isolate	Results by traditional serotyping										O-antigen PCR and sequencing results ^b										H1-antigen PCR and sequencing results ^b										H2-antigen PCR and sequencing results ^b									
		B	C1	C2	D	E	G	K	PCR primers	Sequencing primers	Sequence length (No. nt) ^c	Sequencing coverage	<i>flc</i> Blastn	<i>flc</i> Set 1	<i>flc</i> C	PCR primers	Sequencing Primers	Sequence length (No. nt) ^c	Sequencing Coverage	<i>flf</i> B Blastn	<i>flf</i> B Set 1	<i>flf</i> B	PCR primers	Sequencing Primers	Sequence length (No. nt) ^c	Sequencing Coverage	<i>flf</i> B Blastn	<i>flf</i> B	<i>flf</i> B antigens												
Top 40																																									
Reading	FSL-R8-1987	O:4 (B)	c.b	1.5	(+)	(+)	(+)	(+)	(+)	(+)	1372*	single	Anatum	c.b	<i>flf</i> B Set 1	<i>flf</i> B Set 1	1408*	single	Bareilly	1.5																					
Derby	FSL-R8-2626	O:4 (B)	f.g	[1.2]	(+)	(+)	(+)	(+)	(+)	(+)	1373*	double	Derby	f.g	<i>flf</i> B Set 1	no per product	-	-	-	-																					
Stanley	FSL-R8-1410	O:4 (B)	d	1.2	(+)	(+)	(+)	(+)	(+)	(+)	1373*	single	Moschen	d	<i>flf</i> B Set 1	Sequencing Set 1	867	singl	Newport	1.2																					
Typhimurium	FSL-S5-043	O:4 (B)	i	1.2	(+)	(+)	(+)	(+)	(+)	(+)	1321*	single	Typhimurium	i	<i>flf</i> B Set 1	<i>flf</i> B Set 1	NA	-	-	-																					
Paratyphi B var. Java	FSL-S5-447	O:4 (B)	b	1.2	(+)	(+)	(+)	(+)	(+)	(+)	1314*	single	Paratyphi B	b	<i>flf</i> B Set 1	<i>flf</i> B Set 1	1412*	single	Hissar	1.2																					
Heidelberg	FSL-S5-448	O:4 (B)	r	1.2	(+)	(+)	(+)	(+)	(+)	(+)	1345*	single	Heidelberg	r	<i>flf</i> B Set 1	<i>flf</i> B Set 1	1412*	single	Heidelberg	1.2																					
Schwarzengrund	FSL-S5-449	O:4 (B)	d	1.7	(+)	(+)	(+)	(+)	(+)	(+)	1378*	single	Schwarzengrund	d	<i>flf</i> B Set 1	<i>flf</i> B Set 1	1407*	single	Schwarzengrund	1.7																					
Heidelberg	FSL-S5-480	O:4 (B)	r	1.2	(+)	(+)	(+)	(+)	(+)	(+)	1388*	single	Heidelberg	r	<i>flf</i> B Set 1	<i>flf</i> B Set 1	1414*	single	Heidelberg	1.2																					
Agora	FSL-S5-517	O:4 (B)	f,g,s	[1.2]	(+)	(+)	(+)	(+)	(+)	(+)	1382*	single	Typhimurium	f,g,s	<i>flf</i> B Set 1	Sequencing Set 1	673	double	Agona	f,g,s	<i>flf</i> B Set 1	no per product	-	-																	
Typhimurium	FSL-S5-536	O:4 (B)	i	1.2	(+)	(+)	(+)	(+)	(+)	(+)	1383*	single	Typhimurium	i	<i>flf</i> B Set 1	<i>flf</i> B Set 1	NA	-	-	-																					
L3.5.1.2+	FSL-S5-540	O:4 (B)	i	-	(+)	(+)	(+)	(+)	(+)	(+)	1384*	single	Typhimurium	i	<i>flf</i> B Set 1	<i>flf</i> B Set 1	1420*	single	Saintpaul	1.2																					
Saintpaul	FSL-S5-549	O:4 (B)	e.b	1.2	(+)	(+)	(+)	(+)	(+)	(+)	1391*	single	Typhimurium	e.b	<i>flf</i> B Set 1	<i>flf</i> B Set 1	1412*	single	Typhimurium	1.2																					
Typhimurium var. -	FSL-S5-576	O:4 (B)	i	1.2	(+)	(+)	(+)	(+)	(+)	(+)	1353*	single	Typhimurium	i	<i>flf</i> B Set 1	<i>flf</i> B Set 1	73*	double	Jennessee	i	<i>flf</i> B Set 1	no per product	-	-																	
Templeton	FSL-S5-580	O:4 (B)	f,g	[1.2]	(+)	(+)	(+)	(+)	(+)	(+)	1380*	single	Templeton	f,g	<i>flf</i> B Set 1	<i>flf</i> B Set 1	NA	-	-	-																					
Chambon	FSL-S5-582	O:4 (B)	c	1.5	(+)	(+)	(+)	(+)	(+)	(+)	1381*	single	Chambon	c	<i>flf</i> B Set 1	<i>flf</i> B Set 1	1403*	single	Chambon	c	<i>flf</i> B Set 1	no per product	-	-																	
Braderup	FSL-S5-573	O:7 (C)	c,b	1.2	(+)	(+)	(+)	(+)	(+)	(+)	1334*	single	Saintpaul	c,b	<i>flf</i> B Set 1	<i>flf</i> B Set 1	1399*	single	Braderup	c,b	<i>flf</i> B Set 1	no per product	-	-																	
Mbandaka	FSL-S5-541	O:7 (C)	k	1.5	(+)	(+)	(+)	(+)	(+)	(+)	1383*	single	Hadar	k	<i>flf</i> B Set 1	<i>flf</i> B Set 1	1399*	single	Mbandaka	k	<i>flf</i> B Set 1	no per product	-	-																	
Thien	FSL-S5-542	O:7 (C)	k	1.5	(+)	(+)	(+)	(+)	(+)	(+)	1383*	single	Thien	k	<i>flf</i> B Set 1	<i>flf</i> B Set 1	1398*	single	Thien	k	<i>flf</i> B Set 1	no per product	-	-																	
Oranenburg	FSL-S5-542	O:7 (C)	m	[2.7]	(+)	(+)	(+)	(+)	(+)	(+)	1353*	single	Oranenburg	m	<i>flf</i> B Set 1	<i>flf</i> B Set 1	NA	-	-	-																					
Infantis	FSL-S5-574	O:7 (C)	r	1.5	(+)	(+)	(+)	(+)	(+)	(+)	1371*	single	Heidelberg	r	<i>flf</i> B Set 1	<i>flf</i> B Set 1	1410*	single	Infantis	r	<i>flf</i> B Set 1	no per product	-	-																	
Viroch	FSL-S5-561	O:7 (C)	r	1.5	(+)	(+)	(+)	(+)	(+)	(+)	1350*	single	Heidelberg	r	<i>flf</i> B Set 1	<i>flf</i> B Set 1	1407*	single	Hissar	r	<i>flf</i> B Set 1	no per product	-	-																	
Kentucky	FSL-S5-562	O:8 (C2,C3)	i	2.6	(+)	(+)	(+)	(+)	(+)	(+)	1372*	single	Kentucky	i	<i>flf</i> B Set 1	<i>flf</i> B Set 1	1373*	single	Kentucky	i	<i>flf</i> B Set 1	no per product	-	-																	
Enteroitidis	FSL-S5-541	O:8 (C2,C3)	i	1.5	(+)	(+)	(+)	(+)	(+)	(+)	1361*	single	Enteroitidis	i	<i>flf</i> B Set 1	<i>flf</i> B Set 1	NA	-	-	-																					
Melagridis	FSL-S6-918	O:3,10 (E1)	e.b	1.2	(+)	(+)	(+)	(+)	(+)	(+)	1383*	single	Anatum	e.b	<i>flf</i> B Set 1	<i>flf</i> B Set 1	1405*	single	Melagridis	e.b	<i>flf</i> B Set 1	no per product	-	-																	
Uganda	FSL-S6-919	O:3,10 (E1)	e.b	1.2	(+)	(+)	(+)	(+)	(+)	(+)	1384*	single	Uganda	e.b	<i>flf</i> B Set 1	<i>flf</i> B Set 1	1408*	single	Uganda	e.b	<i>flf</i> B Set 1	no per product	-	-																	
Osaka 15+,34+	FSL-S5-560	O:8 (C2,C3)	y	1.5	(+)	(+)	(+)	(+)	(+)	(+)	1385*	single	Osaka	y	<i>flf</i> B Set 1	<i>flf</i> B Set 1	1414*	single	Osaka	y	<i>flf</i> B Set 1	no per product	-	-																	
Reno	FSL-S5-560	O:8 (C2,C3)	e.b	1.5	(+)	(+)	(+)	(+)	(+)	(+)	1391*	single	Anatum	e.b	<i>flf</i> B Set 1	<i>flf</i> B Set 1	1402*	single	Vance	e.b	<i>flf</i> B Set 1	no per product	-	-																	
Weltevreden	FSL-S5-432	O:3,10 (E1)	y	1.5	(+)	(+)	(+)	(+)	(+)	(+)	1311*	single	Weltevreden	y	<i>flf</i> B Set 1	<i>flf</i> B Set 1	1365*	single	Weltevreden	y	<i>flf</i> B Set 1	no per product	-	-																	
Give	FSL-S5-433	O:3,10 (E1)	i	1.5	(+)	(+)	(+)	(+)	(+)	(+)	1352*	single	Give	i	<i>flf</i> B Set 1	<i>flf</i> B Set 1	928	double	Give	i	<i>flf</i> B Set 1	no per product	-	-																	
Assam	FSL-S5-540	O:3,10 (E1)	e.b	1.5	(+)	(+)	(+)	(+)	(+)	(+)	1363*	single	Assam	e.b	<i>flf</i> B Set 1	<i>flf</i> B Set 1	1409*	single	Assam	e.b	<i>flf</i> B Set 1	no per product	-	-																	
Senftenberg	FSL-S5-568	O:3,19 (E4)	g,[s]	1.5	(+)	(+)	(+)	(+)	(+)	(+)	1362*	single	Senftenberg	g,[s]	<i>flf</i> B Set 1	<i>flf</i> B Set 1	723	double	Senftenberg	g,[s]	<i>flf</i> B Set 1	no per product	-	-																	
Mississippi	FSL-S4-633	O:31 (G)	b	1.5	(+)	(+)	(+)	(+)	(+)	(+)	1364*	single	Mississippi	b	<i>flf</i> B Set 1	<i>flf</i> B Set 1	1407*	single	Mississippi	b	<i>flf</i> B Set 1	no per product	-	-																	
Wok	FSL-S5-569	O:3,10 (E1)	z	1.5	(+)	(+)	(+)	(+)	(+)	(+)	1370*	single	Wok	z	<i>flf</i> B Set 1	<i>flf</i> B Set 1	1362*	single	Wok	z	<i>flf</i> B Set 1	no per product	-	-																	
Cerro	FSL-S5-570	O:3,10 (E1)	z	1.5	(+)	(+)	(+)	(+)	(+)	(+)	1371*	single	Cerro	z	<i>flf</i> B Set 1	<i>flf</i> B Set 1	1363*	single	Cerro	z	<i>flf</i> B Set 1	no per product	-	-																	
Hindmarsh	FSL-S6-260	O:8 (C2,C3)	e.b	1.5	(+)	(+)	(+)	(+)	(+)	(+)	1361*	single	Hindmarsh	e.b	<i>flf</i> B Set 1	<i>flf</i> B Set 1	761	double	Hindmarsh	e.b	<i>flf</i> B Set 1	no per product	-	-																	
Holombok	FSL-S6-386	O:8 (C2,C3)	r	1.5	(+)	(+)	(+)	(+)	(+)	(+)	1372*	single	Holombok	r	<i>flf</i> B Set 1	<i>flf</i> B Set 1	722	double	Holombok	r	<i>flf</i> B Set 1	no per product	-	-																	
Concord	FSL-S6-437	O:7 (C)	y	1.5	(+)	(+)	(+)	(+)	(+)	(+)	1382*	single	Concord	y	<i>flf</i> B Set 1	<i>flf</i> B Set 1	1407*	single	Concord	y	<i>flf</i> B Set 1	no per product	-	-																	
Georgie	FSL-S6-438	O:7 (C)	b	1.5	(+)	(+)	(+)	(+)	(+)	(+)	1383*	single	Georgie	b	<i>flf</i> B Set 1	<i>flf</i> B Set 1	1408*	single	Georgie	b	<i>flf</i> B Set 1	no per product	-	-																	
Hartford	FSL-S6-417	O:7 (C)	c	1.5	(+)	(+)	(+)	(+)	(+)	(+)	1384*	single	Hartford	c	<i>flf</i> B Set 1	<i>flf</i> B Set 1	1409*	single	Hartford	c</																					

TABLE S2 PCR conditions used for serogroup, *fliC* and *fjB* amplification^a

Primer Set	Primer Conc. (μ M)	Start ($^{\circ}$ C, min)	30 cycles of ^b			Final Extension ($^{\circ}$ C, min)
			Denaturation ($^{\circ}$ C, s)	Annealing ($^{\circ}$ C, s)	Extension ($^{\circ}$ C, s)	
Multiplex PCR	0.2	95, 10	95, 30	58, 30	72, 45	72, 7
Serogroup Set 1	0.5	95, 10	94, 30	48, 60	72, 90	72, 7
Serogroup Set 2	0.5	95, 10	94, 30	58, 30	72, 45	72, 7
<i>fliC</i> Set 1	0.5	95, 10	95, 30	59, 30 ^c	72, 90	72, 7
<i>fliC</i> Set 2	0.5	95, 10	95, 30	70, 60 ^d	72, 90	72, 7
<i>fjB</i> Set 1	0.5	95, 10	95, 60	65, 30 ^e	72, 90	72, 7
<i>fjB</i> Set 2	0.4	95, 10	95, 30	58, 30	72, 90	72, 7

^aEach 25 μ L PCR reaction also contained: 1X PCR buffer, 1.5 mM MgCl₂, 0.4 mM of each dNTP, 0.625 units of AmpliTaq Gold 360 DNA Polymerase, and 25 ng of purified *Salmonella* DNA. Refer to Table 1 for additional primer information.

^bAll PCRs were stored at 4 $^{\circ}$ C after the final extension step.

^cTouchdown at -0.5 $^{\circ}$ C per cycle for 20 cycles, followed by 20 cycles at 49 $^{\circ}$ C.

^dTouchdown at -0.5 $^{\circ}$ C per cycle for 20 cycles, followed by 20 cycles at 60 $^{\circ}$ C.

^eTouchdown at -0.5 $^{\circ}$ C per cycle for 20 cycles, followed by 20 cycles at 55 $^{\circ}$ C.

TABLE S3 Results for subtyping methods evaluated for their ability to predict *Salmonella* serovars in 46 isolates representing 40 common serovars.

Serovar	Isolate	PFGE	Serovar predicted by			
			(band difference from most similar	Rep-PCR	Ribotyping (DuPont ID % identity to top match)	MLST
Typhimurium	FSL SS-536	Typhimurium (0)	Typhimurium (94.4)	Typhimurium (94)	Typhimurium	Typhimurium
Typhimurium	FSL SS-433	4,5,12:- (0)	4,5,12:- (96.9)	Typhimurium (97)	Typhimurium	4,5,12:-
Enteritidis	FSL SS-415	Enteritidis (0)	Enteritidis (97.1)	Enteritidis (95)	Enteritidis	Enteritidis
Enteritidis	FSL SS-483	Enteritidis (0)	Enteritidis (98.5)	Enteritidis (96)	Enteritidis	Enteritidis
Newport	FSL SS-639	Newport (0)	Newport (97.4)	Newport (94)	Newport	Newport
Newport	FSL SS-436	Newport (0)	Newport (94.6)	Newport (93)	Newport	Newport
Heidelberg	FSL SS-448	Heidelberg (0)	Heidelberg (96.3)	Heidelberg (98)	Heidelberg	Heidelberg
Heidelberg	FSL SS-480	Heidelberg (1)	Heidelberg (97)	Heidelberg (96)	Heidelberg	Heidelberg
Javiana	FSL SS-395	Javiana (0)	Javiana (86.5)	Javiana (96)	Javiana	Javiana
Javiana	FSL SS-406	Javiana (0)	Javiana (86)	Javiana (93)	Javiana	Javiana
Montevideo	FSL SS-580	4,5,12:- (0)	4,5,12:- (96.9)	Typhimurium (93)	Typhimurium	Typhimurium
Montevideo	FSL SS-630	Montevideo (0)	Montevideo (98.2)	Montevideo (97)	Montevideo	Montevideo
Muenchen	FSL SS-504	Muenchen (1)	Muenchen (94.9)	Muenchen (97)	Muenchen	Muenchen
Oranienburg	FSL SS-642	Oranienburg (0)	Oranienburg (96.9)	Oranienburg (95)	Oranienburg	Oranienburg
Mississippi	FSL AA-633	Unidentified (>3)	Mississippi (92.9)	Mississippi (88)	Mississippi	Mississippi
Saintpaul	FSL SS-649	Typhimurium (2)	Saintpaul (94.6)	Saintpaul (95)	Saintpaul	Saintpaul
Braenderup	FSL SS-573	Braenderup (0)	Bareilly (96)	Bareilly (96)	Braenderup	Braenderup
Agona	FSL SS-517	Agona (1)	Agona (88)	Agona (88)	Agona	Agona
Infantis	FSL SS-734	Infantis (0)	Typhimurium (95.3)	Infantis (93)	Infantis	Infantis
Thompson	FSL SS-523	Thompson (0)	Thompson (96.3)	Thompson (95)	Thompson	Thompson
Paratyphi B var. Java	FSL SS-447	Paratyphi B var. Java (0)	4,5,12:- (96.5)	Paratyphi B (71)	Paratyphi B var. Java	Paratyphi B var. Java
Typhi	FSL R6-540	Typhi (0)	Typhi (94.5)	Unidentified (<70)	Typhi	Typhi
Stanley	FSL SS-408	Stanley (1)	Senftenberg (89.6)	Stanley (96)	Stanley	Stanley
Tennessee	FSL R8-1965	Tennessee (0)	Tennessee (95)	Tennessee (81)	Tennessee	Tennessee
Hadar	FSL SS-543	Hadar (0)	Hadar (97.2)	Hadar (91)	Hadar	Hadar
Virchow	FSL SS-961	Unidentified (>3)	Bareilly (94.2)	Virchow (96)	Virchow	Virchow
Blockley	FSL SS-648	Blockley (2)	Blockley (97.2)	Haardt (92)	Blockley	Blockley
Anatum	FSL SS-540	Anatum (0)	Anatum (92.3)	Anatum (97)	Anatum	Anatum
Weltvereden	FSL SS-438	Unidentified (>3)	Berla (82.8)	Weltvereden (90)	Weltvereden	Weltvereden
Orion var. 15+34+	FSL R8-3408	Unidentified (>3)	Thompson (96.4)	Paratyphi B (93)	Serotype not identified ^a	Serotype not identified ^a
Dublin	FSL SS-439	Dublin (0)	Dublin (87.1)	Enteroitidis (97), San Diego (97)	Dublin	Dublin
Derby	FSL R8-2630	Derby (0)	Hadar (93)	Derby (98)	Derby	Derby
Senftenberg	FSL SS-658	Senftenberg (1)	Schwarzengrund (96.2)	Senftenberg (97)	Senftenberg	Senftenberg
Kentucky	FSL SS-273	Kentucky (0)	Blockley (91.6)	Kentucky (95)	Kentucky	Kentucky
Kentucky	FSL SS-431	Kentucky (0)	18.20:-26 (96.9)	Kentucky (92)	Kentucky	Kentucky
Muenster	FSL SS-432	Muenster (0)	Javiana (96.2)	Lomita (91)	Muenster	Muenster
Mbandaka	FSL SS-5451	Mbandaka (1)	Mbandaka (93.2)	Mbandaka (93)	Mbandaka	Mbandaka
Cero	FSL R8-370	Cero (0)	Cero (95.4)	Cero (88)	Cero	Cero
Choleraesuis	FSL R8-3632	Unidentified (>3)	Litchfield (95.2); Choleraesuis (95.0) ^b	Choleraesuis (88)	Choleraesuis var. Kunzendorf	Choleraesuis var. Kunzendorf
Reading	FSL R8-1987	Unidentified (>3)	Bareilly (94.6)	Reading (93)	Reading	Reading
Meleagridis	FSL R6-538	Meleagridis (0)	Meleagridis (96.5)	Meleagridis (94)	Meleagridis	Meleagridis
Uganda	FSL R8-3404	Uganda (1)	Uganda (95.6)	Enteroitidis (90)	Uganda	Uganda
Schwarzengrund	FSL SS-458	Schwarzengrund (0)	Schwarzengrund (97.7)	Schwarzengrund (95), Bredeney (95)	Schwarzengrund	Schwarzengrund
Give	FSL SS-487	Unidentified (>3)	Abieteba (88)	Abieteba (88)	Give	Give
Worthington	FSL SS-490	Unidentified (>3)	Worthington (87.5)	Worthington (96)	Worthington	Worthington
Typhimurium var. 5 ^c	FSL SS-786	Typhimurium (0); T. Copenhagen (0)	Typhimurium (96.4)	Typhimurium (76)	Typhimurium	Typhimurium

^aMLST identified an existing sequence type, but isolates for that sequence type available in the database lacked serotype information.^bS. Typhimurium var. 5^c was formerly S. Typhimurium var. Copenhagen.^cExamination of rep-PCR patterns indicated S. Choleraesuis was a better match to isolate FSL R8-3632.

TABLE S4 Summary of the Max Planck 7-gene MLST for the 'top 40' *Salmonella* serovars

Serovar	FSL number	<i>aroC</i> AT	<i>dnaN</i> AT	<i>hemD</i> AT	<i>hisD</i> AT	<i>purE</i> AT	<i>sucA</i> AT	<i>thrA</i> AT	ST	Serovar predicted by MLST
Typhimurium	FSL S5-433	10	7	12	9	5	9	2	19	Typhimurium
Typhimurium	FSL S5-536	10	7	12	9	5	9	2	19	Typhimurium
Enteritidis	FSL S5-415	5	2	3	7	6	6	11	11	Enteritidis
Enteritidis	FSL S5-483	5	2	3	7	6	6	11	11	Enteritidis
Newport	FSL S5-436	10	7	21	14	15	12	12	45	Newport
Newport	FSL S5-639	16	43	45	43	36	39	42	5	Newport
Heidelberg	FSL S5-448	2	7	9	9	5	9	12	15	Heidelberg
Heidelberg	FSL S5-480	2	7	9	9	5	9	12	15	Heidelberg
Javiana	FSL S5-395	13	12	17	16	13	16	4	24	Javiana
Javiana	FSL S5-406	13	12	17	520 ^a	13	16	4	1674 ^a	Javiana
4,5,12:i:-	FSL S5-580	10	7	12	9	5	9	2	19	Typhimurium
Montevideo	FSL S5-630	11	41	55	42	34	58	12	1677 ^a	Montevideo
Muenchen	FSL S5-504	41	9	21	12	8	37	17	83	Muenchen
Oranienburg	FSL S5-642	13	11	315 ^a	15	12	15	4	1675 ^a	Oranienburg
Mississippi	FSL A4-633	48	128	96	119	116	119	118	448	Mississippi
Saintpaul	FSL S5-649	5	21	18	9	6	12	17	50	Saintpaul
Braenderup	FSL S5-373	12	2	15	14	11	14	16	22	Braenderup
Agona	FSL S5-517	3	3	7	4	3	3	7	13	Agona
Infantis	FSL S5-734	17	18	22	17	5	21	19	32	Infantis
Thompson	FSL S5-523	14	13	18	12	14	18	1	26	Thompson
Paratyphi B var. Java	FSL S5-447	46	44	46	46	38	18	34	88	Paratyphi B var Java
Typhi	FSL R6-540	1	1	1	1	1	1	5	1	Typhi
Stanley	FSL S5-408	16	16	20	18	8	12	18	29	Stanley
Tennessee	FSL R8-1965	118	107	8	51	2	117	16	319	Tennessee
Hadar	FSL S5-543	2	5	6	7	5	7	12	33	Hadar
Virchow	FSL S5-961	6	7	10	10	8	10	14	16	Virchow
Blockley	FSL S5-648	23	9	15	12	17	20	12	52	Blockley
Anatum	FSL S5-540	10	14	15	31	25	20	33	64	Anatum
Weltevreden	FSL S5-438	130	97	25	125	84	9	101	365	Weltevreden
Orion va. 15+,34+	FSL R8-3408	99	175	58	11	111	9	2	639 ^b	639 serovar not in database
Dublin	FSL S5-439	5	2	3	6	5	5	2	1673 ^a	Dublin
Derby	FSL R8-2630	39	35	8	36	29	9	36	71	Derby
Senftenberg	FSL S5-658	7	6	8	8	7	8	13	14	Senftenberg
Kentucky	FSL S5-273	76	14	3	77	64	64	67	198	Kentucky
Kentucky	FSL S5-431	62	53	54	60	5	53	54	152	Kentucky
Muenster	FSL S5-432	119	10	17	42	12	13	4	321	Muenster
Mbandaka	FSL S5-451	15	70	93	78	113	6	68	413	Mbandaka
Cerro	FSL R8-370	14	112	43	123	118	115	120	367	Cerro
Choleraesuis	FSL R8-3632	34	31	35	14	26	6	8	66	Choleraesuis var. Kunzendorf
Reading	FSL R8-1987	46	60	10	9	6	12	17	1628 ^b	1628 serovar not in database
Meleagridis	FSL R8-938	92	125	78	128	138	9	141	463	Meleagridis
Uganda	FSL R8-3404	147	13	15	123	15	9	17	1676 ^a	Uganda
Schwarzengrund	FSL S5-458	43	47	49	49	41	15	114	322	Schwarzengrund
Give	FSL S5-487	84	11	16	42	40	398 ^a	4	1678 ^a	Give
Worthington	FSL S5-490	189	70	68	132	175	9	172	592	Worthington
T. var. 5- (Copenhagen)	FSL S5-786	10	7	12	9	5	9	2	19	Typhimurium

^aRepresents a new allelic type or sequence type that was submitted to the MLST database^bAn existing sequence type was found in the MLST database, however, no serovar information was available for the isolate(s).