Escherichia coli and *Salmonella*

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TABLE 1 Chemical and biological properties of *E. coli* and *Salmonella* fimbriae

Fimbriae	Type[a]	Morphology/ structure	Mol mass of major subunit (kDa)	Adhesin	Major subunit[b]	Receptor[c]	Host	Reference(s)
E. coli								
P (Pap)	$F7_1$-F16	7 nm	16–22	PapG	$PapA^1$	P glycolipid; Gal(α1→ 4)βGal	Human	110, 126, 127, 173
Prs	F13		18.2	PrsG		Forssman glycolipid; GalNAc(α13)-βGalNAc	Human, canine	111
$F165_1$		5–8 nm	18.5			Forssman glycolipid	Porcine	72
G		5–7 nm	19.5			*N*-Acetyl-D-glucosamine; G-blood group	Human	143
M		Amorphous (afimbrial)	21			M-blood group	Human	143
S		7 nm	17.0	SfaS	$SfaA^1$	α-Sialyl-2,3,-galactose	Human	122, 150
Sfr		7 nm	17			Unknown	Human	140
Type 1C	F1C		17		$FocA^1$	Unknown	137, 172	
F1845		2–3 nm	14.3	DaaE	$DaaE^2$	Dr blood group antigen	Human	15, 163
O75X (Dr)			14–16	DraA	$DraA^2$	Dr blood group antigen	Human	163, 167
AFA-I		Amorphous (afimbrial)		$AfaE1^2$	None	Dr blood group antigen	Human	102
AFA-III		Amorhpous (afimbrial)		$AfaE3^2$	None	Dr blood group antigen	Human	103
K88 (ab, ac, ad)	F4	2–3 nm	23–23.6	FaeG	$FaeG^3$	Contains Galα(1-3)Gal	Porcine	12, 176
CS31A		3.2 nm	29		$ClpG^3$	Unknown	Bovine	62, 112
F41		3.2 nm	29.5		Ffo^3	*N*-Acetylgalactosamine	Bovine, ovine, porcine	6, 59
F17		3–4 nm	19.5	F17G	$F17A^1$	*N*-Acetyl-D-glucosamine	Bovine, porcine	107
K99	F5	5 nm	16.5	FanC	$FanC^1$	NeuGcα3Galβ4Glcβ	Porcine, ovine, bovine	40, 177
F107		5 nm	15.1	Unknown	$FedA^1$		Porcine	81
Type 1	F1A	7 nm	17.0	FimH (PilE)	$FimA^1$ ilA)	α-D-Mannosides	Multiple	48, 98, 114, 134
987P	F6	7 nm	20.0		$FapC^1_5$ (FasA)	Unknown	Porcine	37, 83, 149
CFA/I	F2	7 nm	15.0	Unknown	$CfaB^5$	Contains sialyl moiety	Human	53, 70, 178
CFA/II							Human	52
CS1		7 nm	16.8	Unknown	$CooA^5$	Unknown	Human	104, 141
CS2		7 nm	15.3	Unknown		Asialo GM_1	Human	159
CS3		2–3 nm	15	Unknown		Unknown	Human	20, 21, 86, 104
CFA/III		7–8 nm	18	Unknown		Unknown	Human	75, 97
CFA/IV							Human	97 117
CS4		6–7 nm	17			Unknown	Human	117
CS5		5–6 nm	21		$CS5^3$	Unknown	Human	117
CS6		About 2 nm	14.5			Unknown	Bovine	117
BFP	Type IV	Bundles 50–500 nm wide	18.7		$BfpA^4$	Unknown	Human	43, 64, 160
AAF/I		2–3 nm	14			Unknown	Human	124
Curli (GVVPQ)		2 nm	15		$CsgA^6$	Fibronectin, laminin		132, 133
AF/R1		5 nm	17		AfrA	Unknown	Rabbits	26, 179
Salmonella	Serovars							
Type I (Sef21)	Most serovars	8 nm	21	Unknown but not FimA	$FimA^1$	Mannose-containing		44a, 108, 123, 142
Type 2	*S. pullorum, S. gallinarum*	8 nm		Absent		Hemagglutination-negative		36, 131
Type 3	*S. typhimurium* and possible others			MrkD-like?	Unknown	Type V collagen		5, 165
SEF17 (GVVPQ)	Most *Salmonella* serovars	3–4 nm	17		$AgfA^6$	Fibronectin?		33–35, 44
SEF14	Group D1 of *Salmonella* and other serovars	Thin	14		SefA	Unknown		31, 34, 54, 166
SEF18	All *Salmonella* serovars	2 nm	18		SefD	Unknown		31, 34, 54, 166
Pef	*S. typhimurium*		15	Unknown	$PefA^1$	Unknown	Mouse	58

[a]The F type classification is based on antigenic properties as described by Orskov and Orskov (136) with the exception of type IV.
[b]Numerical superscripts designate classes of fimbrin subunits based on their primary amino acid sequences (see text).
[c]The chemical composition of host cell receptors is indicated where known. NeuGC, *N*-glycolyl neuraminic acid.