

Insights on *Pseudomonas aeruginosa* Carbohydrate Binding from Profiles of Cystic Fibrosis Isolates using Multivalent Fluorescent Glycopolymers Bearing Pendant Monosaccharides

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Supplemental File S5

Probing *P. aeruginosa* Characteristics for Correlations with Enhanced Binding

Table S5.1. Features of *P. aeruginosa* in collection sorted by source

Respiratory or Other Source	Strains with Phenotype			Strains with Structural Feature(s) by TEM, n		
	Source (n)	Phenotype	Total, n	F+, P+	F+, P-	F-, P+
Respiratory	CF Sputum (8)	NonMucoid	3	2	1	0
		Mucoid	3	2	1	0
		Motile	2	2	0	0
	CF Throat (5)	NonMucoid	1	0	1	0
		Mucoid	1	1	0	0
		Motile	3	3	0	0
	NCF Sputum (2)	NonMucoid	0	n.a.	n.a.	n.a.
		Mucoid	1	0	0	1
		Motile	1	0	0	1
Other	Other (3)	Nonmotile	0	n.a.	n.a.	n.a.
		Mucoid	0	n.a.	n.a.	n.a.
		Motile	3	2	1	0

Abbreviations: F+, flagella positive; F-, flagella not observed; P+, pili observed at least occasionally; P-, pili not observed; n, number of strains with the characteristic; n.a., not applicable as no strains in the category to analyse for the feature.

Table S5.2. *P. aeruginosa* "high binder" glycopolymers with features of high binding strains ^{1,2}

Glycopolymer	% of PA in collection (n)	Source or Feature ³ Frequency % of Higher Binding Strains, (n)						
		Respiratory	NonMucoid	Mucoid	Motile	F+, P+	F+, P-	F-, P+
α -Gal	44% (8)	100% (8)	25% (2)	38% (3)	38% (3)	63% (5)	13% (1)	25% (2)
β -GalNAc	56% (10)	100% (10)	40% (4)	30% (3)	30% (3)	70% (7)	20% (2)	10% (1)
β -Gal3S	33% (6)	83% (5)	33% (2)	17% (1)	50% (3)	83% (5)	0% (0)	17% (1)
α -Neu5Ac	11% (2)	100% (2)	50% (1)	0% (0)	50% (1)	100% (2)	0% (0)	0% (0)

¹ Glycopolymers in this study revealed as "high binders" for 1 or more *P. aeruginosa* in this collection included the polyacrylamide-based multivalent fluoresceinated glycopolymers with pendant monosaccharides of galactose (Gal), N-acetylgalactosamine (GalNAc), galactose -3-O-sulfate (Gal3S), or sialic acid (Neu5Ac). ² "High Binding" status was denoted in binding assays where enumeration of fluorescent glycopolymer-bound *P. aeruginosa* was determined microscopically, and there were an average of > 1000 fluorescent cells per microscopic field analyzed. ³ Abbreviations: F+, flagella positive; F-, flagella not observed; P+, pili observed at least occasionally; P-, pili not observed; n, number of strains with the characteristic.

Table S5.3. *P. aeruginosa* high binding glycopolymers data from Table 3
sorted by colony phenotype

Isolate or Strain Source	Culture ID (#)	Colony Phenotype	Structural Features Confirmed	Glycopolymer Binding Observed Microscopically as Fluorescent Cells/Field, and Spectrometrically as Fluorescence Intensity (AU)		
				> 1000 cells (avg)		> 6000 AU
CF Sputum	CF-S 8314-1	1	nonmucoid	flagella, pili	α -Gal, β -GalNAc, β -Gal3S, α -Neu5Ac	α -Gal, β -GalNAc, β -Gal3S, α -Neu5Ac
CF Sputum	CF-S 8981-1	3	nonmucoid	flagella	β -GalNAc	α -Gal, β -GalNAc, β -Gal3S
CF Sputum	CF-S 3443	8	nonmucoid, (SCV)	flagella, pili	α -Gal, β -GalNAc, β -Gal3S	α -Gal, β -GalNAc, β -Gal3S, α -Neu5Ac
CF Throat	CF-T 3371	9	nonmucoid	flagella	β -GalNAc	α -Gal, β -GalNAc, β -Gal3S
CF Sputum	CF-S 8314-2	2	mucoid	flagella	α -Gal	α -Gal, β -GalNAc, β -Gal3S, α -Neu5Ac
CF Sputum	CF-S 8981-2	4	mucoid	flagella, pili	-	α -Gal, β -GalNAc, β -Gal3S, α -Neu5Ac
CF Sputum	CF-S 3396	7	mucoid	flagella, pili	β -GalNAc, β -Gal3S	α -Gal, β -GalNAc, β -Gal3S
CF Throat	CF-T 3372	10	mucoid	flagella, pili	α -Gal, β -GalNAc	α -Gal, β -GalNAc, β -Gal3S, α -Neu5Ac
Non-CF Sputum	ATCC 33468	18	mucoid	pili	α -Gal, β -GalNAc	α -Gal, β -GalNAc, β -Gal3S
CF Sputum	CF-S 3318	5	motile	flagella, pili	α -Gal	α -Gal, β -GalNAc, β -Gal3S
CF Sputum	CF-S 3247	6	motile	flagella, pili	-	α -Gal, β -GalNAc, β -Gal3S
Non-CF Sputum	NCF-S 3391	15	motile	pili	α -Gal, β -Gal3S	α -Gal, β -GalNAc, β -Gal3S, α -Neu5Ac
CF Throat	CF-T 3435	11	motile	flagella, pili	β -GalNAc	α -Gal, β -GalNAc, β -Gal3S
CF Throat	CF-T 3437	12	motile	flagella, pili	α -Gal, β -GalNAc, β -Gal3S, α -Neu5Ac	α -Gal, β -GalNAc, β -Gal3S, α -Neu5Ac
CF Throat	CF-T 3446	13	motile	flagella, pili	β -GalNAc	α -Gal, β -GalNAc, β -Gal3S
Other	NCF-H 3380	14	motile	flagella, pili	β -Gal3S	α -Gal, β -GalNAc, β -Gal3S
Other	ATCC BAA-47	16	motile	flagella	-	α -Gal, β -GalNAc, β -Gal3S
Other	ATCC 15442	17	motile	flagella, pili	-	α -Gal, β -GalNAc, β -Gal3S