
Azoreductase activity of dye-decolorizing bacteria isolated from the human gut microbiota

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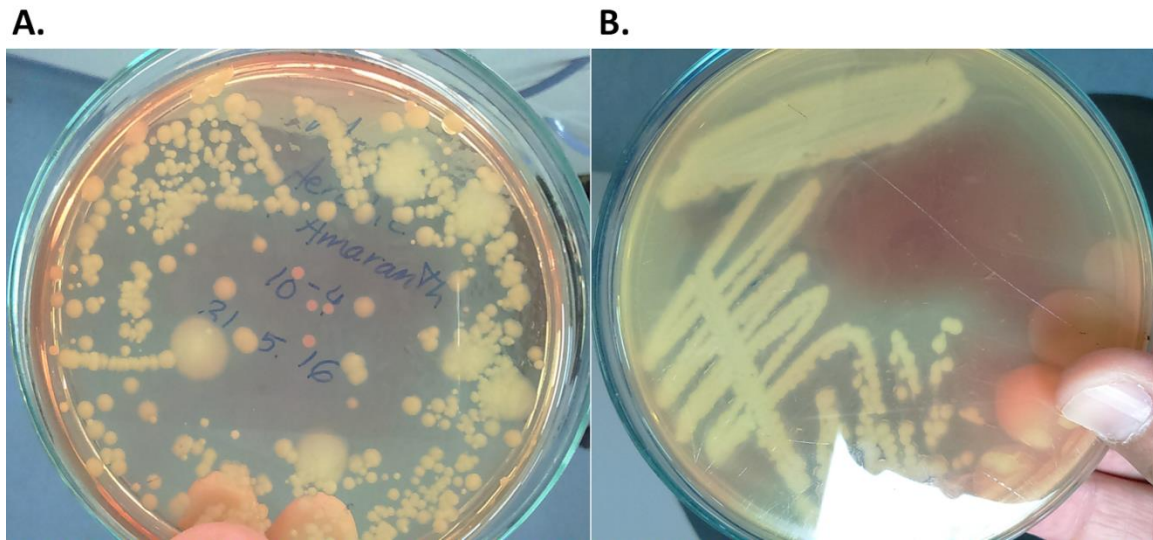
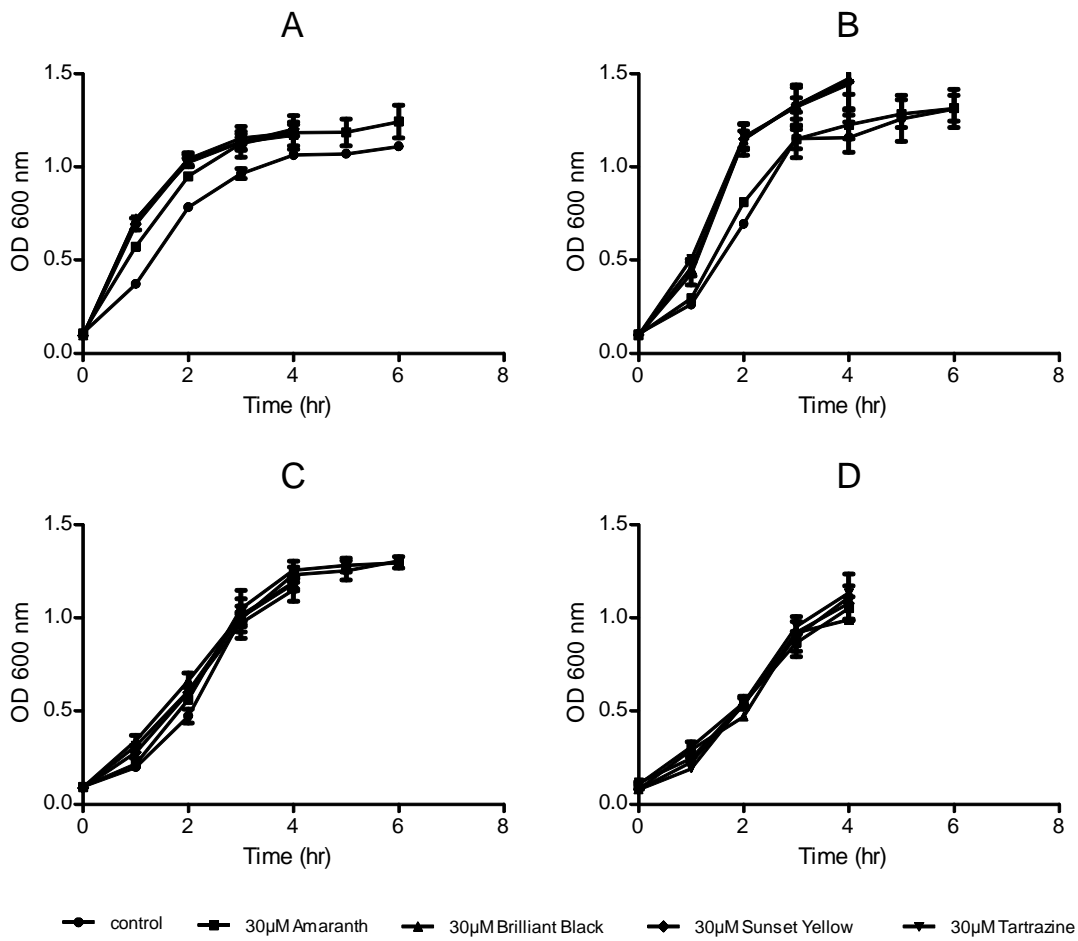


Figure-S1: Screening for azodye-reducing bacteria on BHIS agar supplemented with 20µM Amaranth. (A) Preliminary screening for azoreductase-producing bacteria from stool samples under aerobic conditions. (B) Single-colony isolation of colonies with promising activity in preliminary screens. Both cultures are on BHIS agar plates containing amaranth (20µM) and grown aerobically.



The bars represent the means of three experiments (+/- SD)

Figure-S2: Effect of azodyes on bacterial growth. Effect of used azodyes at a concentration of 30μM on the growth rates of the representative isolates: (A) AZO-Ec, (B) AZO-Ef, (C) AZO-Ev and (D) AZO-Bc. Readings represent the means of three experiments, and error bars represent the standard deviation.

Supplementary Table 1: Coefficient of determination (r^2) of azoreductase decolorization kinetics of the four selected isolates against different concentrations of different azodyes.

Isolate	Substrate	Substrate Concentration (μM)	Zero-order r^2	First-order r^2	Isolate	Substrate	Substrate Concentration (μM)	Zero-order r^2	First-order r^2		
AZO-Ev	Amaranth	10	0.997	0.929	AZO-Ef	Amaranth	10	0.981	0.947		
		20	0.835	0.729			20	0.981	0.947		
		30	0.800	0.704			30	0.981	0.947		
	Brilliant Black	10	0.999	0.946		Brilliant Black	10	0.999	0.950		
		20	0.990	0.892			20	0.999	0.943		
		30	0.999	0.928			30	0.999	0.935		
	Sunset Yellow	10	0.999	0.969		Sunset Yellow	10	0.930	0.959		
		20	0.999	0.969			20	0.839	0.954		
		30	0.999	0.981			30	0.943	0.973		
	Tartrazine	10	0.983	0.962		Tartrazine	10	0.933	0.872		
		20	0.954	0.875			20	0.955	0.887		
		30	0.940	0.854			30	0.977	0.939		
	AZO-Ec	Amaranth	10	0.864		0.867	AZO-Bc	Amaranth	10	0.728	0.693
			20	0.892		0.957			20	0.992	0.932
			30	0.789		0.948			30	0.995	0.976
Brilliant Black		10	0.999	0.960	Brilliant Black	10		0.904	0.800		
		20	0.997	0.926		20		0.956	0.860		
		30	0.995	0.925		30		0.861	0.766		
Sunset Yellow		10	—	—	Sunset Yellow	10		0.928	0.954		
		20	—	—		20		0.926	0.819		
		30	—	—		30		0.955	0.871		
Tartrazine		10	0.954	0.905	Tartrazine	10		0.944	0.979		
		20	0.930	0.924		20		0.900	0.833		
		30	0.821	0.691		30		0.976	0.935		