Exopolysaccharide production by *Helicobacter pylori*

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Helicobacter pylori is a widespread Gram-negative bacterium that infects the stomach of humans leading to the onset of several gastric disorders, such as, gastritis, gastric ulcers, and cancers. Studies from developing countries with low socioeconomic status and poor management of the drinking water suggest that it may serve as an environmental reservoir of *H. pylori* and therefore contribute to human infection.

It has been reported that *H. pylori* has the ability to form microbial consortia embedded by a highly hydrated exopolysaccharidic matrix (biofilms) on surfaces exposed to water. The enhanced protection provided to microbial cells by the exopolysaccharides (EPS) brings added concerns about the possibility of *H. pylori* being transmitted through drinking water. *H. pylori* EPS as been reported to be composed mainly by Gal:Glc:GlcN in a proportion of 1.0:2.1:7.0, respectively (Stark *et al.*, 1999).

The present work brings about microscopical evidences of the capability of *H. pilory* to form free swimming bacterial aggregates and biofilms when submitted to nutrient depletion and hydrodynamic stress. Evidences that *H. pylori* aggregation is an exopolysaccharidic mediated phenomena both in planktonic and sessile states are also showed. Ethanol fractioning of the material recovered from these aggregates revealed an EPS composed of Gal:Glc:GlcN in a proportion of 1.0:0.4:1.6 respectively. A further structural detail about this EPS is under progress.

Stark, R.M *et al*., (1999) *Letters in Applied Microbiology*, **28**:121-126.