

The chemical structure of O-polysaccharide isolated from *Pectobacterium versatile* CFBP6051T(IFB5636)

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Numerous bacteria from the *Pectobacterium* spp. cause symptoms of soft rot and blackleg, thus causing serious losses in the world production of potatoes, vegetables and ornamental plants. One of the new species was named *P. versatile* due to the wide diversity of its habitats. These bacteria were isolated from diverse plants and water streams. *P. versatile* produces many virulence factors, among others: plant cell wall degrading enzymes and extracellular lipopolysaccharides (LPSs). LPSs participate in bacterial adhesion to plant tissue, take part in the efficient colonisation of plant tissues and overcome the host defence mechanisms.

The LPS of *P. versatile* strain CFBP6051^T (IFB5636) [1] was isolated from dry bacterial cells using phenol-water extraction, then purified by enzymatic digestion and dialyzes. The obtained LPS was hydrolyzed by mild hydrolysis with 1% acetic acid. The lipid A was centrifuged, and the sugar fraction was separated by size-exclusion chromatography.

The O-polysaccharide isolated from the LPS of *P. versatile* strain CFBP6051^T (IFB5636) was structurally characterised using spectroscopic techniques and chemical methods. The analyses revealed that the polysaccharide repeating unit consists of Gal, two Man and two residues of an unusual monosaccharide called erwiniose (3,6,8-trideoxy-4-C-(R-1-hydroxyethyl)-d-gulo-octose; Erw).

Knowledge of the structure of polysaccharides may help to explain the mechanisms of the bacterium-plant interaction.

Bibliographic references:

[1] A. Kowalczyk, W. Babińska-Wensierska, E. Lojkowska, Z. Kaczyński (2023), *Carbohydr. Res.* (524).