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MICROBIOCIDAL ACTIVITY OF BIOPOLYMERS ISOLATED FROM *SPHAGNUM PAPILLOSUM*

Stalheim¹, T., Ballance, S.², Børsheim, K. Y.², Christensen, B. E.² & Granum, P. E.^{1*}

¹ Department of Pharmacology, Microbiology and Food Hygiene, Norwegian School of Veterinary Science, Oslo, N-0033, Norway.

² Norwegian Biopolymer Laboratory (NOBIPOL), Department of Biotechnology, Norwegian University of Science and Technology (NTNU), Trondheim, N-7491, Norway.

ABSTRACT

Sphagnum papillosum is one of four *Sphagnum* species that has been routinely used as a surgical dressing (Varely & Barnett, 1987) and as a bactericidal ingredient in medicine (Podterob & Zubets, 2002). It is also one of the chief peat-forming plant species in Northern and Western Europe. Treatment of the moss leaves with chlorine dioxide leads to the formation of a white 'holocellulose'. Subsequent conversion of the holocellulose to its H⁺-form, followed by heating in water, results in the release of a largely soluble pectin-like polysaccharide known as 'sphagnum' (Børsheim *et al.*, 2001). Using pure bacterial cultures as a model system we make an assessment of the microbiocidal properties of sphagnum, several of its fractions, and various chemically modified derivatives.

Ref:

Børsheim, K. Y., Christensen, B. E. & Painter, T. J. (2001). Preservation of fish by embedment in *Sphagnum* moss, peat or holocellulose: experimental proof of the oxopolysaccharide nature of the preservative substance and of its antimicrobial and tanning action. *Innovative Food Science and Emerging Technologies* **2**, 63-74.

Podterob, A. P. & Zubets, E. V. (2002). A history of the medicinal use of plants of the genus *Sphagnum*. *Pharmaceutical Chemistry Journal* **36**, 192-194.

Varley, S. J. & Barnett, S. E. (1987). *Sphagnum* moss and wound healing I. *Clinical Rehabilitation* **1**, 147-152.