



University of HUDDERSFIELD

University of Huddersfield Repository

Ghori, Muhammad U., Moxon, Samuel R., Smith, Alan M. and Conway, Barbara R

Healthcare Applications of Okra Biopolymer

Original Citation

Ghori, Muhammad U., Moxon, Samuel R., Smith, Alan M. and Conway, Barbara R (2015) Healthcare Applications of Okra Biopolymer. In: 2nd UK Hydrocolloid Symposium, 10th September 2015, University of Birmingham. (Unpublished)

This version is available at <http://eprints.hud.ac.uk/id/eprint/30863/>

The University Repository is a digital collection of the research output of the University, available on Open Access. Copyright and Moral Rights for the items on this site are retained by the individual author and/or other copyright owners. Users may access full items free of charge; copies of full text items generally can be reproduced, displayed or performed and given to third parties in any format or medium for personal research or study, educational or not-for-profit purposes without prior permission or charge, provided:

- The authors, title and full bibliographic details is credited in any copy;
- A hyperlink and/or URL is included for the original metadata page; and
- The content is not changed in any way.

For more information, including our policy and submission procedure, please contact the Repository Team at: E.mailbox@hud.ac.uk.

<http://eprints.hud.ac.uk/>

Healthcare Applications of Okra Biopolymer

M.U. Ghori, S. R. Moxon, A.M. Smith, B. R. Conway

¹*Department of Pharmacy, School of Applied Sciences, University of Huddersfield, Huddersfield, HD1 3DH, UK*

Over the years, a great deal of attention has been paid to explore and develop novel polymers having versatile applications. As a result, a large number of polymers, especially from natural origin have been successfully developed. For instance, okra extract based bio-polymer is an inexpensive and non-toxic bio-polymer. It is naturally obtained from okra plant (*Abelmoschus esculentus* L.) and considered to be an acidic polysaccharide consisting different sugars, including galactose, rhamnose, galacturonic acid, glucose and glucuronic acid. The aim of this study was to summarise the healthcare applications of okra biopolymer. As it has been successfully used as an emulsifying agent and it has the ability to swell and control the drug release over a period of time. It is a good tablet binder and many studies have reported that it can enhance the compression ability of many drugs. It has been used in nasal drug delivery and to develop oral dispersible films. Recently, its tablet coating and mucoadhesive properties have also been reported. Moreover, okra has also shown biomedical applications as tannins and flavonoids protect against gastric mucosal damage via generation of protective layers at ulcer sites and cytoprotection. The polysaccharide has also been shown to inhibit adhesion of *Helicobacter pylori* to stomach tissue and its ability to reduce blood glucose and cholesterol levels gives okra a potential role in the treatment of diabetes and obesity. In scientific literature an increasing number of studies have been reported on okra biopolymer, so this timely review will possibly give a deeper understanding and facilitate the scientists to recognise its health care potential.