

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau

(43) International Publication Date  
02 February 2023 (02.02.2023)



(10) International Publication Number  
**WO 2023/004456 A1**

(51) International Patent Classification:

*A61K 8/9728* (2017.01) *C08B 37/00* (2006.01)  
*A61K 9/00* (2006.01) *A61K 36/064* (2006.01)  
*A61Q 19/08* (2006.01) *A61P 17/02* (2006.01)

(21) International Application Number:

PCT/AU2022/050788

(22) International Filing Date:

27 July 2022 (27.07.2022)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

17/390,809 30 July 2021 (30.07.2021) US

(71) Applicant: **TISSUE REPAIR LTD** [AU/AU]; Level 10,  
255 Pitt Street, Sydney, New South Wales 2000 (AU).

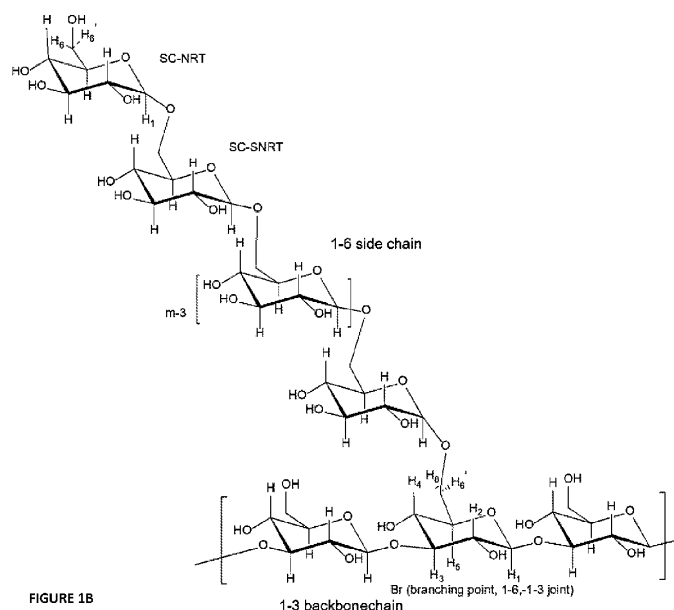
(72) Inventor: **CHARARA, Anthony**; Level 10, 255 Pitt Street,  
Sydney, New South Wales 2000 (AU).

(72) Inventor: **SHAW, Mark Deacon** (deceased).

(74) Agent: **CREATEIP**; PO Box 21445, Christchurch, 8140  
(NZ).

(81) Designated States (unless otherwise indicated, for every  
kind of national protection available): AE, AG, AL, AM,  
AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ,  
CA, CH, CL, CN, CO, CR, CU, CV, CZ, DE, DJ, DK, DM,  
DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT,  
HN, HR, HU, ID, IL, IN, IQ, IR, IS, IT, JM, JO, JP, KE,  
KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU,  
LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA,  
NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO,  
RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, ST, SV, SY, TH,  
TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, WS,  
ZA, ZM, ZW.

(54) Title: ISOLATED POLYSACCHARIDE COMPOUND AND METHOD OF USE AND MANUFACTURE



(57) Abstract: Described herein is an isolated biological polysaccharide compound. The biological polysaccharide compound may be characterised by being isolated and having: glycosyl linkages comprising 1:3 linked glucopyranosyl residue of 65-95%wt and 1:6 linked glucopyranosyl residue of 5-25%wt; and a purity of 85- 100%  $\beta$ -glucan; and a molecular weight of 0.5 to 2.2MDa; and a TNF- $\alpha$  cytokine response in a human bioassay that is at least 1.5 times greater than a negative control TNF- $\alpha$  cytokine response in a human bioassay; and being essentially insoluble in aqueous solutions. In at least one embodiment, methods are described of treating skin by topical application of a vehicle containing the isolated biological polysaccharide to a skin site such as a wound or burn. A method of manufacture is also described.

[Continued on next page]

**(84) Designated States** (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

**Published:**

- *with international search report (Art. 21(3))*
- *in black and white; the international application as filed contained color or greyscale and is available for download from PATENTSCOPE*