PCT WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 6 : A61K 33/00

A1

(11) International Publication Number: **WO 99/44622**

(43) International Publication Date: 10 September 1999 (10.09.99)

(21) International Application Number: PCT/GB99/00605

(22) International Filing Date: 1 March 1999 (01.03.99)

(30) Priority Data:
9804469.6 2 March 1998 (02.03.98) GB

(71) Applicant *(for all designated States except US)*: ABERDEEN UNIVERSITY [GB/GB]; Auris Business Centre, 23 St. Machar Drive, Aberdeen AB2 1RY (GB).

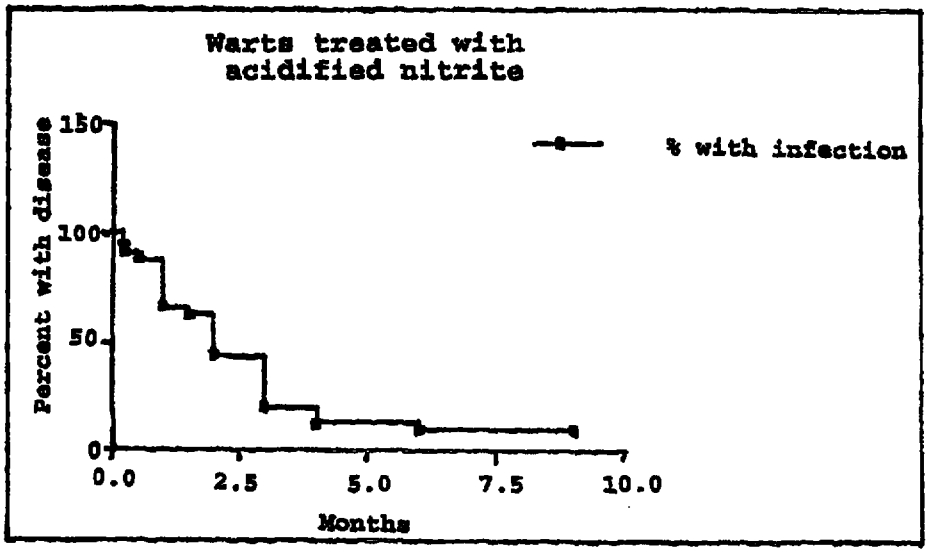
(72) Inventors; and
(75) Inventors/Applicants *(for US only)*: ORMEROD, Anthony [GB/GB]; 12 Kemnay Place, Aberdeen AB15 8SG (GB). BENJAMIN, Nigel [GB/GB]; 37 Mercers Road, London N19 4PW (GB).

(74) Agents: STEBBING, Peter, John, Hunter et al.; Ablett & Stebbing, Caparo House, 101–103 Baker Street, London W1M 1FD (GB).

(81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published
With international search report.
Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.

(54) Title: INORGANIC NITRITE AND ORGANIC ACID IN COMBINATION AS TOPICAL ANTIVIRAL COMPOSITION



(57) Abstract

The present invention provides for the use in the manufacture of a topical medicament for the *in vivo* potentiation of the immune system during a viral skin infection resultant from virus replication in the epidermis, of a topical formulation comprising a source of nitrogen oxides, characterized in that the source of nitrogen oxides is produced when a pharmaceutically acceptable acidifying agent and a pharmaceutically acceptable donor of nitrogen oxides or a precursor therefor are brought into intimate contact at a site of biological action. The invention also provides delivery systems for the topical medicament.