

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
5 January 2006 (05.01.2006)

PCT

(10) International Publication Number
WO 2006/002287 A1

(51) International Patent Classification⁷: **A61K 31/327**,
31/122, 33/40, A61P 1/02

(21) International Application Number:
PCT/US2005/022160

(22) International Filing Date: 22 June 2005 (22.06.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/582,294 23 June 2004 (23.06.2004) US

(71) Applicant and

(72) Inventor (for all designated States except US): **HOF-
MANN, Robert, F.** [US/US]; 3105 Toro Ring, Austin, TX
78746-2432 (US).

(74) Agents: **CHWANG, Ling, T.** et al.; Jackson Walker
L.L.P., 2435 N. Central Expressway, Suite 600, Richard-
son, TX 75080 (US).

(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,

AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,
KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA,
MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ,
OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL,
SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC,
VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,
FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO,
SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN,
GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.

(54) Title: USE OF TARGETED OXIDATIVE THERAPEUTIC FORMULATION IN ENDODONTIC TREATMENT

(57) Abstract: A pharmaceutical formulation and its use. The pharmaceutical formulation contains peroxidic species or reaction products resulting from oxidation of an alkene, such as geraniol, by an oxygen-containing oxidizing agent, such as ozone; a penetrating solvent, such as dimethylsulfoxide ("DMSO"); a dye containing a chelated metal, such as hematoporphyrin; and an aromatic redox compound, such as benzoquinone. The pharmaceutical formulation is used effectively to stimulate periapical bone regeneration and for the endodontic treatment of periapical bone abscess, and fibromas, in a patient.



WO 2006/002287 A1