

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
21 September 2006 (21.09.2006)

PCT

(10) International Publication Number
WO 2006/099561 A1

(51) International Patent Classification:

A61K 39/295 (2006.01) A61K 48/00 (2006.01)
A61K 39/116 (2006.01) A01N 63/00 (2006.01)
A61K 39/00 (2006.01)

(21) International Application Number:

PCT/US2006/009618

(22) International Filing Date: 14 March 2006 (14.03.2006)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

60/661,352 14 March 2005 (14.03.2005) US
Not furnished 13 March 2006 (13.03.2006) US

(71) Applicant (for all designated States except US):
BOEHRINGER INGELHEIM VETMEDICA, INC.
[US/US]; 2621 North Belt Highway, St. Joseph, Missouri
64506 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **KROLL, Jeremy**
[US/US]; 14216 Maple Drive, Urbandale, Iowa 50323
(US). **ROOF, Mike** [US/US]; 3222 Tupelo Circle, Ames,
Iowa 50014 (US).

(74) Agent: **TRUITT, Tracey; HOVEY WILLIAMS LLP,**
2405 Grand Boulevard, Suite 400, Kansas City, Missouri
64108 (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, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV,
LY, 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, LV, 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
- before the expiration of the time limit for amending the
claims and to be republished in the event of receipt of
amendments

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: IMMUNOGENIC COMPOSITIONS COMPRISING LAWSONIA INTRACELLULARIS

(57) Abstract: The present invention provides combination vaccines that comprise an immunological agent effective for reducing the incidence of or lessening the severity of PPE caused by *L. intracellularis*, and one or more immunological active components effective in treatment and/or prophylaxis of at least one further disease-causing organism for swine. Moreover, the present invention also relates to a kit that comprises an immunological agent effective for reducing the incidence of or lessening the severity of PPE caused by *L. intracellularis*, and one or more immunological active components effective in treatment and/or prophylaxis of at least one further disease-causing organism for swine.



WO 2006/099561 A1