

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
27 April 2006 (27.04.2006)

PCT

(10) International Publication Number
WO 2006/044825 A3

(51) International Patent Classification:
A61K 31/4245 (2006.01) **C07D 413/00** (2006.01)
C07D 417/00 (2006.01)

Colorado 80022 (US). **ALLEN, Shelley** [US/US]; 4033
South County Road #29, Loveland, Colorado 80537 (US).

(21) International Application Number:
PCT/US2005/037305

(74) Agents: **BURTON, Carol, W.** et al.; HOGAN & HART-
SON, LLP, 1200 17th Street, Suite 1500, Denver, CO
80202 (US).

(22) International Filing Date: 18 October 2005 (18.10.2005)

(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, 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.

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/620,048 19 October 2004 (19.10.2004) US
11/252,232 17 October 2005 (17.10.2005) US

(71) Applicant (*for all designated States except US*): **ARRAY
BIOPHARMA INC.** [US/US]; 3200 Walnut Street, Boul-
der, CO 80301 (US).

(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).

(72) Inventors; and

(75) Inventors/Applicants (*for US only*): **HANS, Jeremy**
[US/US]; 4654 White Rock Circle, #6, Boulder, CO
80301 (US). **WALLACE, Eli, M.** [US/US]; P.O. Box
1727, Lyons, CO 80540 (US). **WALLACE, Eli, M.**
[US/US]; P.O. Box 1727, Lyons, Colorado 80540 (US).
ZHAO, Qian [CN/US]; 3919 South Torrey's Peak Drive,
Superior, CO 80027 (US). **LYSSIKATOS, Joseph, P.**
[US/US]; 1720 Eldorado Circle, Superior, CO 80027 (US).
AICHER, Tom [US/US]; 3070 North Torrey's Peak Drive,
Superior, CO 80027 (US). **LAIRD, Ellen** [US/US]; 2435
Mallard Circle, Longmont, CO 80504 (US). **ROBINSON,
John** [US/US]; 10494 Ouray Street, Commerce City,

Published:

— with international search report

(88) Date of publication of the international search report:
5 October 2006

*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: MITOTIC KINESIN INHIBITORS AND METHODS OF USE THEREOF

(57) Abstract: This invention relates to inhibitors of mitotic kinesins, particularly KSP, and methods for producing these inhibitors. The invention also provides pharmaceutical compositions comprising the inhibitors of the invention and methods of utilizing the inhibitors and pharmaceutical compositions in the treatment and prevention of various disorders.



WO 2006/044825 A3