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Patent Search

Invention Title	"AMINOQUINOLINE BASED HYBRIDS AND USES THEREOF"
Publication Number	34/2015
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Application Number	661/DEL/2012
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Field Of Invention	(FI03)CHEMICAL
Classification (IPC)	C07C
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Applicant

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Abstract:

The invention relates to aminoquinoline based hybrids and uses thereof, comprising of 4-aminoquinoline, 8-aminoquinoline, mefloquine, amidoquine& all combinatic thereof, with general formula (I) as herein described: (Formula Removed) Formula (I) Wherein R is independently absent or selected from the group of substituted or u substituted, linear, branched, or cyclic alkyl, alkenyl, or alkynyl; halogen, substituted or unsubstitutedalkoxy, nitro, cyno, carbonyl, hydroxyl, phenoxy, thio, and substituted or unsubstituted aryl or hetero-aryl; R1-R7 are independently absent or selected from the group of substituted or un-substituted, linear, branched, or cycli alkyl, alkenyl, or alkynyl; halogen, substituted or unsubstitutedalkoxy, nitro, cyno, carbonyl, hydroxyl, phenoxy, thio, and substituted or unsubstituted aryl or hetero-ar the six membered ring with X, Y, Z be all CH or combination of CH, X/Y/Z or any other combination where X, Y, Z being N, O, S or any other biologically relevant atoms c fused heteroaromatic system such as pyrimidine, pyrazine, triazine and all other heteroaromatics with various substitution patterns and n = 0 -16, the (CH2)n being a linker or spacer, and it can be aromatic, hetero¬aromatic or cyclic systems.

Complete Specification

FIELD OF INVENTION

This invention relates to aminoquinoline based hybrids, pharmaceutical composition containing the same, and methods of using thereof.

BACKGROUND OF THE INVENTION

Malaria affects over 40% of world's population, causing deaths of 1-3 million people every year [Haynes, R. K. Acc. Chem. Res. 1997, 30, 73; Meunier, B. Acc. Chem. Res. 2002, 35, 167; O'Neill, P. M. J. Med. Chem. 2004, 47, 2945; Jain, R. Med. Res. Rev. 2007, 27, 65; Vennerstrom, J. L. Med. Res. Rev. 2004, 24, 425; Schlitzer, M. Angew. Chem. Int. Ed. Engl. 2003, 42, 5274; Vennerstrom, J. L. Nature 2004, 430, 900; White, N. J.Science 2008, 320, 330]. The incidence of malaria has become a matter of concern because of many Plasmodium falciparum strains have developed resistance to most widely used drugs [Greenwood, B. Nature 2002, 415, 670].

The 4-aminoquinoline class of therapeutics remains a frontline drug of choice for combating malaria even after several decades of drug development efforts [Gomez-Barrio, A. Eur. J. Med. Chem. 2009, 44, 3091].

WO Pub. No. 2005009969 on "AMINOQUINOLINE DERIVATIVES AND THEIR USE AS ADENOSINE A3 LIGANDS" discloses compounds of the general formula (I), and their salts, solvates, isomers (tautomers, desmotrops, optically active isomers) as well as the salts and solvates; are strong adenosine A3 receptor ligands preferably antagonists.

WO Pub. No. 2010089341 on "NOVEL VANCOMYCIN-AMINOQUINOLINE HYBRID MOLECULES THEIR PREPARATION AND THEIR APPLICATION IN THERAPEUTICS"relates to novel vancomycin-aminoquinoline hybrid molecules designated "vancomyquines®", preparation thereof and application thereof in therapeutics. The present invention notably relates to novel hybrid molecules in which vancomycin is bound covalently to substituted 4-aminoquinolines. The present invention describes the preparation of these hybrid molecules designated "vancomyquines®" corresponding to formula (I) as well as their therapeuticuse as an antibacterial agent.

The success of this antimalarial pharmacophore is based on its excellent clinical efficacy, ease of administration, low toxicity and cheap synthesis [Gomez-Barrio, A. Eur. J. Med. Chem. 2009, 44, 3091; Carden Jr., G. A. J. Am. Med. Assoc. 1946, 130, 1069].

US App. No. 20050009815 on "4-AMINOQUINOLINE COMPOUNDS" is concerned with compounds of the general Formula I: 1 and pharmaceutically acceptable salts thereof, which are useful as melanin concentrating hormone receptor antagonists, particularly MCH-1R antagonists. As such, compounds of the present invention are useful for the treatment or prevention of obesity or eating disorders associated with excessive food intake and complications thereof, osteoarthritis, certain cancers, AIDS wasting, cachexia, frailty (particularly in elderly), mental disorders stress, cognitive disorders, sexual function, reproductive function, kidney function, locomotor disorders, attention deficit disorder (ADD), substance abuse disorders and dyskinesias, Huntington's disease, epilepsy, memory function, and spinal muscular atrophy. Compounds of formula I may therefore be used in the treatment of these conditions, and in the manufacture of a medicament useful in treating these conditions. Pharmaceutical formulations comprising one of the compounds of formula (I) as an active ingredient are disclosed, as are processes for preparing these compounds.

US Pat. No 7122471 on "ANTIMALARIAL COMPOUNDS" relates to pharmaceutical compounds for use in the treatment or prophylaxis of malaria having the

Detail

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Rawat et al.

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(54) **AMINOQUINOLINE DERIVATIVES AND USES THEREOF**

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(73) Assignee: **The McLean Hospital Corporation**, Belmont, MA (US)

(21) Appl. No.: **14/382,727**

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USPC **424/93.7**; 544/328; 514/256; 435/377; 435/366; 544/331; 514/275; 544/324; 544/122; 514/235.8; 544/295; 514/252.18

(57) **ABSTRACT**

Described herein are aminoquinoline and aminoacridine based hybrids, pharmaceutical compositions and medicaments that include such aminoquinoline and aminoacridine based hybrids, and methods of using such compounds for diagnosing and/or treating infections, neurodegerative diseases or disorders, inflammation, inflammation associated diseases and disorders, and/or diseases or disorders that are treatable with dopamine agonists such as the restless leg syndrome.

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C07D 401/14 (2006.01)	*A61K 31/497* (2006.01)
C07D 403/12 (2006.01)	*A61K 31/506* (2006.01)
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C07D 413/14 (2006.01)	*A61K 31/5377* (2006.01)
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(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, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, 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, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

[Continued on next page]

(54) Title: AMINOQUINOLINE DERIVATIVES AND USES THEREOF

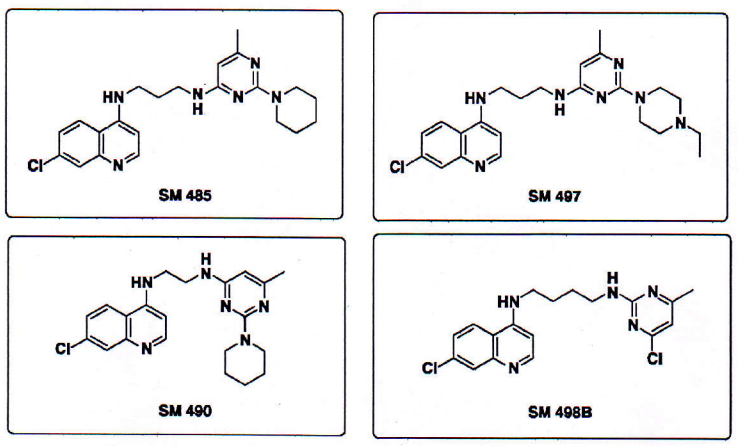

FIG. 2

(57) Abstract: Described herein are aminoquinoline and aminoacridine based hybrids, pharmaceutical compositions and medicaments that include such aminoquinoline and aminoacridine based hybrids, and methods of using such compounds for diagnosing and/or treating infections, neurodegerative diseases or disorderes, inflammation, inflammation associated diseases and disorders, and/or diseases or disorders that are treatable with dopamine agonists such as the restless leg syndrome.

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(43) **Pub. Date: Jun. 4, 2015**

(54) **CURCUMIN ANALOGS AND METHODS OF MAKING AND USING THEREOF**

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(72) Inventors: **Diwan S. Rawat**, Delhi (IN); **Binghe Wang**, Marietta, GA (US); **Nitin Kumar**, Delhi (IN); **Sunny Manohar**, Delhi (IN); **Xiaochuan Yang**, Towson, MD (US); **Guojing Sun**, Atlanta, GA (US); **Nanting Ni**, Ventura, CA (US)

(73) Assignee: **University of Delhi**, Delhi (IN)

(21) Appl. No.: **14/418,025**

(22) PCT Filed: **Aug. 1, 2013**

(86) PCT No.: **PCT/US2013/053216**

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C07D 233/61	(2006.01)
C07D 213/89	(2006.01)
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(52) **U.S. Cl.**

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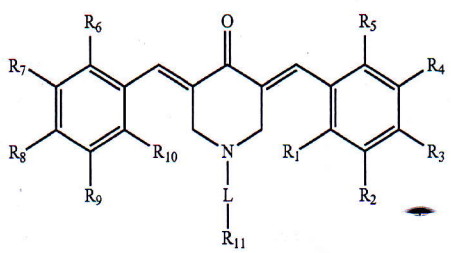
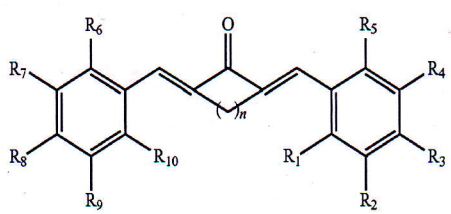
(57) **ABSTRACT**

Compounds having Formula I or II, and methods of making and using thereof, are described herein:

Formula I



Formula II



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C07D 401/06 (2006.01) *A61K 31/45* (2006.01)
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(72) Inventors: **RAWAT, Diwan, S.**; Department Of Chemistry, University Of Delhi, Delhi 110007 (IN). **WANG, Binghe**; 1222 Rosette Way, Marietta, GA 30062 (US). **KUMAR, Nitin**; Department Of Chemistry, University Of Delhi, Delhi 110007 (IN). **MANOHAR, Sunny**; Department Of Chemistry, University Of Delhi, Delhi 11007 (IN). **YANG, Xiaochuan**; 157 Versailles Circle, Apt. F, Towson, MD 21204 (US). **SUN, Guojing**; 1460C Willow Lake Road, Atlanta, GA 30329 (US). **NI, Nanting**; 1035 Walker Court Ne, Marietta, GA 30068 (US).

(74) Agents: **PABST, Patrea, L.** et al.; Pabst Patent Group LLP, 1545 Peachtree Street, N.E., Suite 320, Atlanta, GA 30309 (US).

(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, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, 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, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

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