



- (51) **International Patent Classification:**
A61K 31/33 (2006.01)
- (21) **International Application Number:**
PCT/US2014/017794
- (22) **International Filing Date:**
21 February 2014 (21.02.2014)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
- (30) **Priority Data:**
61/768,033 22 February 2013 (22.02.2013) US
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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, IR, 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, SA, 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.

(84) **Designated States** (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

Published:

— with international search report (Art. 21(3))

(54) **Title:** GAMMA-DIKETONES AS *WNT*/BETA -CATENIN SIGNALING PATHWAY ACTIVATORS

(57) **Abstract:** The present disclosure provides γ -diketones or analogs thereof, that activate Wnt/ β -catenin signaling and thus treat or prevent diseases related to signal transduction, such as osteoporosis and osteoarthritis; osteogenesis imperfecta, bone defects, bone fractures, periodontal disease, otosclerosis, wound healing, craniofacial defects, oncolytic bone disease, traumatic brain injuries or spine injuries, brain atrophy/neurological disorders related to the differentiation and development of the central nervous system, including Parkinson's disease, strokes, ischemic cerebral disease, epilepsy, Alzheimer's disease, depression, bipolar disorder, schizophrenia; otic disorders like cochlear hair cell loss; eye diseases such as age related macular degeneration, diabetic macular edema or retinitis pigmentosa and diseases related to differentiation and growth of stem cell, such as hair loss, hematopoiesis related diseases and tissue regeneration related diseases.

