

Title (en)
BISPHOSPHONATE COMPOUNDS AND METHODS WITH ENHANCED POTENCY FOR MULTIPLE TARGETS INCLUDING FPPS, GGPPS, AND DPPS

Title (de)
BIPHOSPHONAT-VERBINDUNGEN UND VERFAHREN MIT ERHÖHTER POTENZ FÜR MEHRERE ZIELE, DARUNTER FPPS, GGPPS UND DPPS

Title (fr)
COMPOSÉS BISPHOSPHONATES ET PROCÉDÉS PRÉSENTANT UN POTENTIEL AMÉLIORÉ POUR CIBLES MULTIPLES INCLUANT FPPS, GGPPS, ET DPPS

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Application
EP 08780519 A 20080411

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Abstract (en)
[origin: CA2682694A1] The disclosure provides, inter alia, novel bisphosphonate compounds and methods of making and using such compounds. In certain embodiments, compounds of the invention include bisphosphonates that are capable of selectively inhibiting one or more of farnesyl diphosphate synthase (FPPS), geranylgeranyl diphosphate synthase (GGPPS), and decaprenyl pyrophosphate synthase (DPPS). In preferred embodiments, compounds of the invention are capable of selectively inhibiting two or more of FPPS, GGPPS, and DPPS. In embodiments, compounds and methods of the invention demonstrate superior activity levels, such as in the anti-cancer context, immunostimulation context, and other contexts, which in several cases exceed the activity levels of previous generation bisphosphonate drugs by orders of magnitude. In embodiments, the invention provides compounds and methods in connection with research and therapeutic applications, e.g., for tumor or cancer cell growth inhibition, activation of gamma delta T cells, inhibition of certain enzymes related to the mevalonate metabolic pathway, bone resorption diseases, cancer, immune disorders, immunotherapy, and infectious diseases.

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Citation (search report)
• [X] US 2006079487 A1 20060413 - SANDERS JOHN M [US], et al
• [X] ZHANG Y ET AL: "Activity of Nitrogen-Containing and Non-Nitrogen-Containing Bisphosphonates on Tumor Cell Lines", JOURNAL OF MEDICINAL CHEMISTRY, AMERICAN CHEMICAL SOCIETY, US, vol. 49, no. 19, 21 September 2006 (2006-09-21), pages 5804 - 5814, XP008122775, ISSN: 0022-2623, [retrieved on 20060824], DOI: 10.1021/JM060280E
• See references of WO 2008128056A1

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