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(12) **United States Patent**  
**Kadota et al.**(10) **Patent No.:** **US 7,666,913 B2**  
(45) **Date of Patent:** **Feb. 23, 2010**(54) **METHOD OF TREATING OR PREVENTING OSTEOPOROSIS USING ISOTAXIRESINOL DERIVED FROM TAXUS YUNNANENSIS**(75) Inventors: **Shigetoshi Kadota**, Toyama (JP);  
**Takahiro Nobukawa**, Sagami-hara (JP)(73) Assignee: **Kotosugi Inc.**, Sagami-hara-shi (JP)

(\*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 740 days.

(21) Appl. No.: **10/570,252**(22) PCT Filed: **Jan. 27, 2005**(86) PCT No.: **PCT/JP2005/001055**§ 371 (c)(1),  
(2), (4) Date: **Mar. 2, 2006**(87) PCT Pub. No.: **WO2005/074905**PCT Pub. Date: **Aug. 18, 2005**(65) **Prior Publication Data**

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(51) **Int. Cl.****A61K 31/05** (2006.01)**A61P 19/10** (2006.01)(52) **U.S. Cl.** ..... **514/729; 424/195.15**(58) **Field of Classification Search** ..... None  
See application file for complete search history.(56) **References Cited****U.S. PATENT DOCUMENTS**

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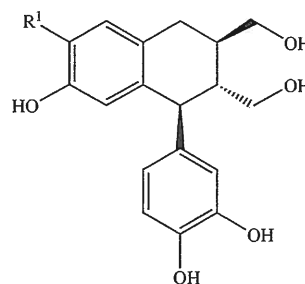
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*Primary Examiner*—Brian-Young S Kwon*(74) Attorney, Agent, or Firm*—Westerman, Hattori, Daniels & Adrian, LLP(57) **ABSTRACT**

The object of the present invention is to provide a drug effective in treating or preventing osteoporosis. The present invention discloses a therapeutic or preventive drug for osteoporosis having a compound shown in the formula (1)



(1)

(wherein R<sup>1</sup> is an alkyloxy group with the carbon number of 1 to 4)or a pharmaceutically acceptable salt or ester of said compound in the formula (1) as an effective ingredient. In the compound of the formula (1), a substance in which R<sup>1</sup> is CH<sub>3</sub>O is isotaxiresinol derived from *Taxus yunnanensis* and showed physiological activities in inhibiting bone resorption and improving bone formation.**6 Claims, No Drawings**