



US009408861B2

**(12) United States Patent
Tabuteau****(10) Patent No.: US 9,408,861 B2
(45) Date of Patent: *Aug. 9, 2016****(54) OSTEOCLAST INHIBITORS FOR KNEE
CONDITIONS***A61K 9/00* (2006.01)*A61K 9/20* (2006.01)(71) Applicant: **ANTECIP BIOVENTURES II LLC**,
New York, NY (US)**(52) U.S. CL.**CPC *A61K 31/675* (2013.01); *A61K 9/0053*
(2013.01); *A61K 9/2004* (2013.01); *A61K*
31/663 (2013.01); *A61K 45/06* (2013.01)(72) Inventor: **Herriot Tabuteau**, New York, NY (US)(73) Assignee: **ANTECIP BIOVENTURES II LLC**,
New York, NY (US)**(58) Field of Classification Search**USPC 514/108
See application file for complete search history.(*) Notice: Subject to any disclaimer, the term of this
patent is extended or adjusted under 35
U.S.C. 154(b) by 0 days.**(56)****References Cited**This patent is subject to a terminal dis-
claimer.

U.S. PATENT DOCUMENTS

(21) Appl. No.: **14/967,224**(22) Filed: **Dec. 11, 2015****(65) Prior Publication Data**

US 2016/0095871 A1 Apr. 7, 2016

4,939,130	A	7/1990	Jaeggi et al.
5,869,471	A	2/1999	Hovancik et al.
6,015,801	A	1/2000	Daifotis
6,419,955	B1	7/2002	Gabel et al.
6,943,155	B2	9/2005	Lichtenberger
7,658,939	B2	2/2010	Oshlack et al.
7,704,977	B2	4/2010	Leonard
7,888,345	B2	2/2011	Hoyt et al.
8,053,429	B2	11/2011	Cumming et al.
8,119,159	B2	2/2012	Cumming et al.
8,323,689	B2	12/2012	Cumming et al.
8,323,690	B2	12/2012	Cumming et al.
8,399,023	B2	3/2013	Hanna et al.
8,772,267	B2	7/2014	Pappagallo
8,802,658	B2	8/2014	Tabuteau
8,822,436	B1	9/2014	Tabuteau
8,828,431	B2	9/2014	Cumming et al.
8,835,650	B1	9/2014	Tabuteau
8,859,530	B2	10/2014	Desai
8,865,757	B1	10/2014	Tabuteau et al.
8,883,201	B2	11/2014	Leonard

(Continued)

FOREIGN PATENT DOCUMENTS

CN	101259133	3/2008
WO	0243738	1/2002

(Continued)

OTHER PUBLICATIONS

European Medicines Agency, Public Summary of Opinion on Orphan
Designation, Zoledronic Acid for the Treatment of Complex
Regional Pain Syndrome, 4 pgs., Oct. 2013.

(Continued)

Primary Examiner — Rei-Tsang Shiao(74) *Attorney, Agent, or Firm* — K&L Gates LLP; Brent A.
Johnson; Louis C. Cullman**(57)****ABSTRACT**Oral dosage forms of osteoclast inhibitors, such as nitrogen-
containing bisphosphonates, can be used to treat or alleviate
pain or related conditions.**(51) Int. Cl.**

<i>A61K 31/66</i>	(2006.01)
<i>A61K 31/675</i>	(2006.01)
<i>A61K 31/663</i>	(2006.01)
<i>A61K 45/06</i>	(2006.01)