

US009439901B2

(12) United States Patent Mascitti

(10) Patent No.: US 9,439,901 B2

(45) **Date of Patent: Sep. 13, 2016**

(54) DIOXA-BICYCLO[3.2.1]OCTANE-2,3,4-TRIOL DERIVATIVES

(71) Applicant: **Pfizer Inc.**, New York, NY (US)

(72) Inventor: Vincent Mascitti, Groton, CT (US)

(73) Assignee: Pfizer Inc., New York, NY (US)

(*) Notice: Subject to any disclaimer, the term of this

patent is extended or adjusted under 35

U.S.C. 154(b) by 0 days.

(21) Appl. No.: 14/535,556

(22) Filed: Nov. 7, 2014

(65) Prior Publication Data

US 2015/0065512 A1 Mar. 5, 2015

Related U.S. Application Data

- (60) Division of application No. 13/796,339, filed on Mar. 12, 2013, now abandoned, which is a continuation of application No. 13/498,702, filed as application No. PCT/IB2010/054775 on Oct. 21, 2010, now Pat. No. 8.669,380.
- (60) Provisional application No. 61/372,938, filed on Aug. 12, 2010, provisional application No. 61/257,140, filed on Nov. 2, 2009.
- (51) Int. Cl.

A61K 31/357	(2006.01)
A61K 31/155	(2006.01)
C07D 493/08	(2006.01)
A61K 31/4985	(2006.01)
A61K 45/06	(2006.01)

(52) U.S. Cl.

CPC A61K 31/4985 (2013.01); A61K 31/155 (2013.01); A61K 31/357 (2013.01); A61K 45/06 (2013.01); C07D 493/08 (2013.01)

(58) Field of Classification Search

None

See application file for complete search history.

(56) References Cited

U.S. PATENT DOCUMENTS

3,174,901	Α	3/1965	Sterne
4,598,089	Α	7/1986	Hadvary et al.
4,929,629	Α	5/1990	Jeffrey
5,047,518	A	9/1991	Furneaux et al.
5,591,836	Α	1/1997	Mazur et al.
5,624,941	Α	4/1997	Barth et al.
6.069,238	Α	5/2000	Hitchcock et al.
6.414.126	В1	7/2002	Ellsworth et al.
6,486,299	В1	11/2002	Shimkets
6,515,117	B2	2/2003	Ellsworth et al.
6,555,519		4/2003	Washburn
6.627.611		9/2003	Tomiyama et al.
6,683,056		1/2004	Washburn et al.
6.774.112		8/2004	Gougoutas
6,815,428		11/2004	Ohsumi et al.
6,838,442		1/2005	Bussolari et al.
6,872,706	B2	3/2005	Fujikura et al.
6,908,905		6/2005	Ohsumi et al.
0,500,505	DZ	0/2003	Onsum et al.

6,936,590 B2 8/2005 Washburn et al. 6,972,283 B2 12/2005 Fujikura et al. 7,045,665 B2 5/2006 Fujikura et al. 7.053,060 B2 5/2006 Fujikura et al. 7,056,892 B2 6/2006 Fujikura et al. 7,084,123 B2 8/2006 Fujikura et al. 7,087,579 B2 8/2006 Nishimura et al. 7,101,856 B2 9/2006 Glombik et al. 7,169,761 B2 1/2007 Tomiyama et al. 7,202,350 B2 4/2007 Imamura et al. 7,217,697 B2 5/2007 Shiohara et al. 7,247,705 B2 7/2007 Iwamoto et al. 7,250,522 B2 7/2007 Sato et al.

(Continued)

FOREIGN PATENT DOCUMENTS

CA	2572149	1/2006	
CA	2666375	9/2007	
	(Continued)		

OTHER PUBLICATIONS

Ehrenkranz, et al., "Phlorizin: a review", Diabetes/Metabolism Research and Reviews, vol. 21(1), pp. 31-38 (2005).

(Continued)

Primary Examiner — San-Ming Hui

Assistant Examiner — Andrew Lee

(74) Attorney, Agent, or Firm — Lisa A. Samuels

(57) ABSTRACT

Compounds of Formula (A) and (B) are described herein and the uses thereof for the treatment of diseases, conditions and/or disorders mediated by sodium-glucose transporter inhibitors (in particular, SGLT2 inhibitors).

$$\mathbb{R}^{1}$$

$$\mathbb{R}^{1}$$

$$\mathbb{R}^{1}$$

$$\mathbb{R}^{2}$$

$$\mathbb{R}^{2}$$

$$\mathbb{R}^{2}$$

$$\mathbb{R}^{2}$$

$$\mathbb{R}^{2}$$

$$\mathbb{R}^{2}$$

$$\mathbb{R}^{3}$$

2 Claims, No Drawings