US 20210340249A1

(19) United States

(12) Patent Application Publication

Steyaert et al.

(10) Pub. No.: US 2021/0340249 A1

(43) Pub. Date: Nov. 4, 2021

(54) **MUSCARINIC ACETYLCHOLINE RECEPTOR BINDING AGENTS AND USES THEREOF**

(71) Applicants: **VIB VZW**, Gent (BE); **VRIJE UNIVERSITEIT BRUSSEL**, Brussels (BE); **THE BOARD OF TRUSTEES OF THE LELAND STANFORD JUNIOR UNIVERSITY**, Palo Alto, CA (US)

(72) Inventors: **Jan Steyaert**, Beersel (BE); **Els Pardon**, Wezemaal (BE); **Brian Kobilka**, Palo Alto, CA (US); **Aaron Ring**, Palo Alto, CA (US); **Andrew Kruse**, Palo Alto, CA (US); **Aashish Manglik**, Menlo Park, CA (US)

(21) Appl. No.: **17/366,755**

(22) Filed: **Jul. 2, 2021**

Related U.S. Application Data

(60) Continuation of application No. 15/939,748, filed on Mar. 29, 2018, now abandoned, which is a division of application No. 14/765,824, filed on Aug. 4, 2015, now abandoned, filed as application No. PCT/EP2014/052265 on Feb. 5, 2014.

(60) Provisional application No. 61/961,058, filed on Oct. 3, 2013, provisional application No. 61/761,136, filed on Feb. 5, 2013.

Publication Classification

(51) **Int. Cl.**
C07K 16/28 (2006.01)

(52) **U.S. Cl.**
CPC ***C07K 16/28*** (2013.01); *C07K 2317/22* (2013.01); *C07K 2317/33* (2013.01); *C07K 2317/32* (2013.01); *C07K 2317/569* (2013.01); *C07K 2317/75* (2013.01); *C07K 2317/34* (2013.01)

(57) **ABSTRACT**

Agents that specifically bind to a muscarinic acetylcholine receptor in a conformationally specific way can be used to induce a conformational change in the receptor. Such agents have therapeutic applications and can be used in X-ray crystallography studies of the receptor. Such agents can also be used to improve drug discovery via compound screening and/or structure based drug design.

Specification includes a Sequence Listing.