US009926536B2

(12) **United States Patent**
Bocola et al.

(10) **Patent No.: US 9,926,536 B2**
(45) **Date of Patent: Mar. 27, 2018**

(54) **GLUCOSE OXIDASE VARIANTS AND METHODS OF USING THE SAME**

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(*) 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.: **14/810,070**

(22) Filed: **Jul. 27, 2015**

(65) **Prior Publication Data**

US 2016/0002609 A1 Jan. 7, 2016

Related U.S. Application Data

(63) Continuation of application No. PCT/EP2014/051602, filed on Jan. 28, 2014.

(30) **Foreign Application Priority Data**

Jan. 28, 2013 (EP) 13152935

(51) **Int. Cl.**

C12N 9/20	(2006.01)
C12N 9/04	(2006.01)
C12N 9/54	(2006.01)
C12Q 1/54	(2006.01)

(52) **U.S. Cl.**

CPC ***C12N 9/0006*** (2013.01); ***C12N 9/54*** (2013.01); ***C12Q 1/54*** (2013.01); *C12Y 101/03004* (2013.01); *G01N 2333/904* (2013.01)

(58) **Field of Classification Search**

None

See application file for complete search history.

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Primary Examiner — Hope Robinson

(57) **ABSTRACT**

Novel glucose oxidase (GOx) variants are disclosed that have the substitutions of T30V and I94V set forth in SEQ ID NO:1, and additionally at least one further amino acid substitution in the enzyme sequence in any of the positions S53; A137; A173; A332; F414 and V560. The GOx variants herein exhibit specificity for glucose and significantly reduced oxygen consumption rates and/or increased enzyme activity for electron mediators other than oxygen. Also provided are assay devices incorporating at least one of the GOx variants herein for improved blood glucose measurements.

12 Claims, 11 Drawing Sheets