

Title (en)

GLUCOSE SENSING MOLECULES HAVING SELECTED FLUORESCENT PROPERTIES

Title (de)

FÜR GLUKOSE SENSITIVE MOLEKÜLE MIT AUSGESUCHTEN FLUORESZENSEIGENSCHAFTEN

Title (fr)

MOLECULES DE DETECTION DU GLUCOSE PRESENTANT DES PROPRIETES FLUORESCENTES CHOISIES

Publication

EP 1214596 A1 20020619 (EN)

Application

EP 00965032 A 20000915

Priority

- US 0025295 W 20000915
- US 15410399 P 19990915

Abstract (en)

[origin: WO0120334A1] An analyte sensing fluorescent molecule that employs intramolecular electron transfer is designed to exhibit selected fluorescent properties in the presence of analytes such as saccharides. The selected fluorescent properties include excitation wavelength, emission wavelength, fluorescence lifetime, quantum yield, photostability, solubility, and temperature or pH sensitivity. The compound comprises an aryl or a substituted phenyl boronic acid that acts as a substrate recognition component, a fluorescence switch component, and a fluorophore. The fluorophore and switch component are selected such that the value of the free energy for electron transfer is less than about 3.0 kcal mol⁻¹. Fluorescent compounds are described that are excited at wavelengths greater than 400 nm and emit at wavelengths greater than 450 nm, which is advantageous for optical transmission through skin. The fluorophore is typically selected from transition metal-ligand complexes and thiazine, oxazine, oxazone, or oxazine-one as well as anthracene compounds. The fluorescent compound can be immobilized in a glucose permeable biocompatible polymer matrix that is implantable below the skin.

IPC 1-7

G01N 33/66; **G01N 33/58**; **A61B 5/00**

IPC 8 full level

A61B 5/145 (2006.01); **A61B 5/1455** (2006.01); **C07D 309/12** (2006.01); **C07F 5/04** (2006.01); **C09K 11/07** (2006.01); **G01N 33/52** (2006.01); **G01N 33/66** (2006.01); **A61B 5/00** (2006.01)

CPC (source: EP)

G01N 33/52 (2013.01); **G01N 33/66** (2013.01); **A61B 5/14532** (2013.01); **A61B 5/1459** (2013.01)

Citation (search report)

See references of WO 0120334A1

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US11081226B2; US11694785B2; US9897565B1; US11131643B2; US11733196B2; US9886556B2; US10380328B2; US11574742B2; US12040096B2; US9773096B2; US9811638B2; US9965596B2; US10102922B2; US10410740B2; US10629294B2; US9892234B2; US10128002B2; US10403397B2; US11678800B2; US12023127B2; US9604002B2; US9710611B2; US9892235B2; US11311213B2; US11490837B2; US11857314B2; US9898585B2; US9965595B2; US10255992B2; US10453568B2; US10535426B2; US10811133B2; US11081233B2; US11158424B2; US11468987B2; US11621074B2; US11783946B2; US11783945B2; US11804300B2; US12027266B2

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