

AROMATIC 2-NITROSULFONYL FLUORIDE ANTIBIOTICS

Tech ID: 27578 / UC Case 2017-139-0

PATENT STATUS

Country	Type	Number	Dated	Case
United States Of America	Issued Patent	11,446,279	09/20/2022	2017-139

BRIEF DESCRIPTION

Infections caused by drug-resistant Gram-negative bacteria (GNB) have quickly become a global problem in medicine and developing antibiotics has been challenging because of the onset of drug-resistant mechanisms and their low membrane permeability. Due to these membrane permeability limitations, numerous antibiotics have been developed against gram-positive bacteria have no efficacy against gram-negative bacteria. New approaches to enable the reliable, efficient monitoring and manipulation of live cells over a period of several weeks in a cost-effective format are therefore needed.

UC Berkeley researchers have developed aromatic sulfonyl fluoride antibacterial agents that meet this need. Gram-negative bacteria are notoriously difficult to target, thanks to their dual-membrane defense system that blocks both hydrophilic and hydrophobic drugs. This invention overcomes those barriers, providing a potent and permeable pharmacophore scaffold that delivers effective antibacterial activity.

SUGGESTED USES

- » Antibacterial agents for gram-negative bacteria

ADVANTAGES

- » Designed to penetrate Gram-negative bacteria's defense layers.
- » Provides a strong therapeutic solution
- » Can be used in a range of antibiotic treatments for bacterial infections.

ADDITIONAL TECHNOLOGIES BY THESE INVENTORS

- ▶ Small Molecule Endosomal Disruptor for Biotherapeutic Delivery
- ▶ Compositions and Methods for Identifying Functional Nucleic Acid Delivery Vehicles
- ▶ New Acid Degradable Lipids Based On Self Assembling Peptides
- ▶ Lipid Nanoparticles with non-immunogenic Poly (ethylene glycol)
- ▶ Acid Degradable Solid Lipid Nanoparticles
- ▶ Synthesis Of New Cationic And Ionizable Lipid Nanoparticles (LNPs) via Solid Phase Peptide Synthesis

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INVENTORS

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OTHER INFORMATION

CATEGORIZED AS

- » **Materials & Chemicals**
- » Chemicals
- » **Medical**
- » Disease: Infectious Diseases

RELATED CASES

2017-139-0

