



TECHNOLOGY

Transporting Chloride Across Biological Membranes with Oligomers Bearing Secondary Amide Functionalities: Potential Antibiotics, Anti-cancer Agents and Therapeutics for Cystic Fibrosis

OVERVIEW

Chloride is the most physiologically important anion and its transport across cell membranes is a crucial process for life. While many synthetic cation channels and carriers have been described, few compounds are known to transport anions across membranes. New anion transporters are critical for development of drugs to combat diseases involving chloride transport malfunctions.

Researchers at the Department of Chemistry and Biochemistry, University of Maryland, College Park, have developed novel compounds that show chloride transport selectively across bilayer membranes. These compounds are rare examples of synthetic anion transporters, thus enabling these compounds and their analogs to be effective as antibiotics, anti cancer agents, and as therapeutics for diseases caused by chloride anion deficiencies, particularly cystic fibrosis. These compounds also have the ability to induce transmembrane potential into liposomes that are placed under a chloride gradient. This feature is important for drug development and for investigators that study cation transporters.

For additional information, please contact the Office of Technology Commercialization, University of Maryland. Phone: 301-405-3947. E-mail: otc@umd.edu

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Additional Information

INSTITUTION

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LICENSE STATUS

Contact OTC for licensing information

CATEGORIES

- Small molecules

EXTERNAL RESOURCES

- [US Patent 7,355,074](#)

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