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High-Throughput Screening of Neuraminidase Inhibitors

Tech ID: 11316 / UC Case 2004-438-0

ABSTRACT

On-bead Screening Process of Neuraminidase Inhibitors

FULL DESCRIPTION

A novel fluorogenic substrate that can be immobilized on solid support for high-throughput screening of neuraminidase inhibitors has been developed by researchers at the University of California, Davis.

Notable features of this on-bead screening process include:

- ▶ Ability to be used in large combinatorial libraries of compounds to find enzyme inhibitory properties; and,
- ▶ Rapid identification of inhibitors for new strains of the influenza virus.

Recently, the FDA has approved two influenza neuraminidase inhibitors, Zanamivir and Oseltamivir as anti-influenza drugs. Their structures were made based on the three-dimensional crystal structure of influenza neuraminidase.

However, due to the fast emergence of new viral strains and unique substrate selectivity among known neuraminidases, creating neuraminidase inhibitors based on the influenza neuraminidase structure alone is not rapid enough to accommodate new strains.

With this novel screening process, neuraminidase inhibitors can be quickly discovered. This screening process relates to a method of identifying an enzyme inhibitor using an on-bead fluorogenic substrate and a test ligand. Using an assay with the new fluorogenic substrate on the combinatorial bead and incubating it with neuraminidase will determine the intensity of inhibition, which can be classified by the fluorescence change of the bead. This will permit the determination of the most suitable inhibitor for neuraminidases from different sources.

RELATED MATERIALS

- ▶ [Ying L and Gervay-Hague J. 2005. One-bead-one-inhibitor-one-substrate Screening of Neuraminidase Activity. *Chembiochem.* Oct;6\(10\):1857-65.](#)

PATENT STATUS

Country	Type	Number	Dated	Case
United States Of America	Issued Patent	7,527,934	05/05/2009	2004-438

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OTHER INFORMATION

CATEGORIZED AS

- ▶ **Biotechnology**
 - ▶ Health
- ▶ **Medical**
 - ▶ New Chemical Entities, Drug Leads
 - ▶ Therapeutics
 - ▶ Vaccines

RELATED CASES

2004-438-0

RELATED TECHNOLOGIES

- ▶ [Method of Preparing Multivalent Single Chain Antibodies \(scFv\)](#)
- ▶ [Synthesis of Immunopotent Alpha Glycolipids via Glycosyl Iodides](#)

ADDITIONAL TECHNOLOGIES BY THESE INVENTORS

- ▶ [Novel method to Efficiently Synthesize complex Carbohydrates](#)
- ▶ [Method of Preparing Multivalent Single Chain Antibodies \(scFv\)](#)

- ▶ Synthesis of Immunopotent Alpha Glycolipids via Glycosyl Iodides
- ▶ Camellia Sinesis Rapid Growth Platform

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