Method of Preparing Multivalent Single Chain Antibodies (scFv)

Tech ID: 11289 / UC Case 2006-340-0

ABSTRACT

Construction of Multivalent Antibody scFv Through Cu(I) Catalyzed 1,3-Dipolar Cycloaddition

FULL DESCRIPTION

Single chain fragments (scFv) derived from the small binding domain of parent monoclonal antibodies (MAb) offer pharmacokinetic advantages and target tumor cells more efficiently than MAb. However, methods for producing multivalent scFv have proven to be very challenging. UC Davis researchers have recently developed a novel method to construct divalent scFv through a small linker using 1,3-dipolar cycloaddition chemistry.

APPLICATIONS

This method provides an efficient and controllable way to produce multivalent antibodies for the advancement of scFv against cancer.

FEATURES/BENEFITS

This method surpasses previous methods of production, such as using polyvalent proteins and antibodies, which were limited by low throughput and high cost.

RELATED MATERIALS

- Natarajan A, Du W, Xiong CY, DeNardo GL, DeNardo SJ and Gervay-Hague J. 2007. Construction of di-scFv through a trivalent alkyne-azide 1,3-dipolar cycloaddition. Chem Commun (Camb). (7):695-7. Epub 2006 Nov 28.

PATENT STATUS

Country	Type	Number	Dated	Case
United States Of America	Issued Patent	8,946,391	02/03/2015	2006-340

RELATED TECHNOLOGIES

- High-Throughput Screening of Neuraminidase Inhibitors

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OTHER INFORMATION

CATEGORIZED AS

- **Imaging**
  - Medical
- **Medical**
  - Disease: Cancer
  - Imaging
- **Research Tools**
  - Reagents

RELATED CASES

2006-340-0

- Synthesis of Immunopotent Alpha Glycolipids via Glycosyl Iodides

ADDITIONAL TECHNOLOGIES BY THESE INVENTORS

- Novel method to Efficiently Synthesize complex Carbohydrates
- Synthesis of Immunopotent Alpha Glycolipids via Glycosyl Iodides
- High-Throughput Screening of Neuraminidase Inhibitors
- Camellia Sinesis Rapid Growth Platform

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