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INNOVATION VENTURES AVAILABLE TECHNOLOGIES

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NOVEL ANTIBODIES AGAINST EPHA2 FOR RESEARCH, DIAGNOSIS, AND TREATMENT OF CANCER

Tech ID: 30477 / UC Case 2009-106-0

INVENTION NOVELTY

A novel monoclonal human antibody specific to the cell-surface exposed protein EphA2, which is over-expressed in many forms of cancer and is a validated therapeutic target.

VALUE PROPOSITION

Many forms of cancer, most notably basal-like breast cancers, induce the over-expression of a cell-surface exposed protein EphA2, making it a potent biomarker for cancer diagnosis as well as a therapeutic target. Using a unique, high-throughput phage-display screening approach, UCSF researchers have successfully identified a novel human monoclonal antibody that recognizes a new epitope of EphA2, and upon recognizing EphA2 on the cell surface is able to be efficiently internalized. Internalizing antibodies are essential technologies for the targeted delivery of anti-cancer drugs.

This novel invention provides the following advantages:

A new tool with which to target EphA2: a validated therapeutic target for many forms of cancer, including basaltype breast cancers

Targeted delivery of anti-cancer drugs through the use of internalizing antibodies with cancer-specific epitopes

TECHNOLOGY DESCRIPTION

UCSF researchers have taken a high-throughput screening approach to identify novel human antibodies against cellsurface proteins commonly over-expressed in cancer cells. The approach involves rounds of selection of a human antibody phage-display library for internalization in a human breast cancer cell line, and further enrichment of antibodies that bind human proteins of interest by expressing them (in their surface-displayed form) in yeast. The result of this approach has produced a novel human antibody against the validated cancer target EphA2.

APPLICATION

- Research tool
- ▶ Diagnostic

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OTHER INFORMATION

KEYWORDS

Antibody, Cancer, Oncology,

EphA2

CATEGORIZED AS

Medical

- Diagnostics
- Disease: Cancer
- ► Therapeutics

RELATED CASES 2009-106-0

▶ Therapy for basal-like breast cancers or other forms of cancer

LOOKING FOR PARTNERS

To develop and commercialize this novel antibody as a research tool for the study of, diagnosis of, or therapy for

certain forms of cancer.

STAGE OF DEVELOPMENT

Preclinical

RELATED MATERIALS

▶ Discovery of internalizing antibodies to basal breast cancer cells

PATENT STATUS

Country	Туре	Number	Dated	Case
United States Of America	Issued Patent	10,406,225	09/10/2019	2009-106
United States Of America	Issued Patent	9,446,125	09/20/2016	2009-106
United States Of America	Issued Patent	9,220,772	12/29/2015	2009-106

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