SCGB3A2 for Treatment of Cancer

Description of Technology: A novel method of treating lung cancer using uteroglobin-related protein 1 (UGRP1), also known as secretoglobin family 3A member 2 (SCGB3A2) is disclosed. SCGB3A2 is a member of the uteroglobin/Clara cell secretory protein or Secretoglobin gene superfamily of secretory proteins that is predominantly expressed in the epithelial cells of the trachea, bronchus, and bronchioles, and is known for its anti-inflammatory activity. The inventors have previously discovered the growth factor and anti-fibrotic activities of SCGB3A2 and proposed the use of SCGB3A2 as a therapeutic to treat neonatal respiratory distress and as an agent to promote lung development, and to inhibit or reduce pulmonary fibrosis caused by an anti-cancer agent. Recently, the inventors have made a surprising discovery that the secretory protein SCGB3A2 also has anti-cancer activity, in addition to its known growth factor, anti-inflammatory, and anti-fibrotic activities. The inventors have used SCGB3A2-induced inhibition of metastasis in the iv- and sc-injected LLC cells lung metastasis model, Scgb3a2-null mice injected with LLC cells with and without SCGB3A2, and Scgb3a2-lung transgenic mice subjected to tobacco carcinogen induced mouse carcinogenesis bioassay to confirm their discovery that SCGB3A2 has anti-cancer activity.

Potential Commercial Applications: Therapeutics for treating cancers.

Competitive Advantages:
- This technology provides, for the first time, a new mode of treating lung cancer using SCGB3A2.
- Because SCGB3A2 is predominantly expressed in lung airways, low toxicity is anticipated by the use of SCGB3A2 as a therapeutic.
- Unique mode of action (affects both metastasis and growth (proliferation) of cancer cells) makes SCGB3A2 more effective as a therapeutic.

Development Stage:
- Early-stage.
- In vitro data available.
- In vivo data available (animal).

Inventors: Kimura Shiko, Cai Yan, and Murata Miyuki (NCI).


Related Technologies: HHS Reference Nos. E–286–2006/0, 1, 2—

Licensing Contact: Suryanarayana (Sury) Vepa; 301–435–5020; vepas@mail.nih.gov.

Collaborative Research Opportunity: The National Cancer Institute, Laboratory of Metabolism, is seeking statements of capability or interest from parties interested in collaborative research to further develop, evaluate or commercialize SCGB3A2 as an anti-cancer reagent, which mainly works through the JNK pathway. For collaboration opportunities, please contact John D. Hedges, Ph.D. at hedgesj@mail.nih.gov.


Richard U. Rodriguez, Director, Division of Technology Development and Transfer, Office of Technology Transfer, National Institutes of Health.

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DEPARTMENT OF HEALTH AND HUMAN SERVICES

National Institutes of Health

National Institute of General Medical Sciences; Notice of Closed Meeting

Pursuant to section 10(d) of the Federal Advisory Committee Act, as amended (5 U.S.C. App.), notice is hereby given of the following meeting. The meeting will be closed to the public in accordance with the provisions set forth in sections 552b(c)(4) and 552b(c)(6), Title 5 U.S.C., as amended. The grant applications and the discussions could disclose confidential trade secrets or commercial property such as patentable material, and personal information concerning individuals associated with the grant applications, the disclosure of which would constitute a clearly unwarranted invasion of personal privacy.

Name of Committee: National Institute of Diabetes and Digestive and Kidney Diseases Special Emphasis Panel; Pragmatic Research and Natural Experiments.

Date: June 11, 2014.

Time: 11:00 a.m. to 1:00 p.m. Agenda: To review and evaluate grant applications.

Place: National Institutes of Health, Two Democracy Plaza, 6707 Democracy Boulevard, Bethesda, MD 20892, (Telephone Conference Call).

Contact Person: Michele L. Barnard, Ph.D., Scientific Review Officer, Review Branch, DEA, NIDDK, National Institutes of Health, Room 753, 6707 Democracy Boulevard, Bethesda, MD 20892–2542, (301) 594–8989, barnardm@extra.niddk.nih.gov.