potent against virions produced from PBMC, perhaps due to differences in glycosylation. Importantly, the bifunctional protein is composed of almost entirely human sequences. It potentially can be linked to other functional moieties to achieve desired properties (longer plasma half-life, selective killing of HIV-infected cells, imaging of viral reservoirs, etc.).

The chimeric protein of this invention has considerable potential for prevention of HIV–1 infection, both as a topical microbicide and as a systemic agent to protect during and after acute exposure (*e.g.* vertical transmission, post exposure prophylaxis). It also has potential utility for treatment of chronic infection, including gene therapy strategies involving hematopoietic stem cells and/or viral vectors. Such proteins, nucleic acid molecules encoding them, and their production and use in preventing or treating viral infections are claimed in the patents issued for this invention.

Applications:

- Prophylactic and/or therapeutic treatment for HIV infection.
- Topical microbicide treatment to protect against HIV infection.
- Imaging of HIV infected cells in tissues.

Advantages:

- High neutralization efficiency due to unique bifunctional binding characteristics.
- Potentially minimally immunogenic or toxic (human sequences and possibly low treatment doses).
- Broad neutralizing activity.
- Mechanism of action less susceptible to resistance.

Development Status:

- Reproducible production and scale-up of chimeric protein has been demonstrated.
- Potent and broad neutralization of genetically diverse HIV–1 clinical isolates was demonstrated.

Market: The race to develop effective antiviral strategies against HIV infection is ongoing. The problems exhibited by conventional drugs such (i.e. toxicity and resistance) have triggered the pursuit of alternative approaches to HIV/AIDS prevention and treatment. One of the new approaches is the development of neutralizing antibodies against the HIV envelope proteins. This approach has not yet yielded any commercially viable treatment. It is believed that the approach presented in the subject invention will circumvent many of the shortcomings of the existing drugs and other pursued approaches. If this approach is successful the commercial rewards will be huge because of the global magnitude of HIV epidemics.

Inventor: Edward A. Berger (NIAID).

Related Publications:

1. Lagenaur LA, Villarroel VA, Bundoc V, Dey B, Berger EA. sCD4–17b bifunctional protein: Extremely broad and potent neutralization of HIV–1 pseudotyped viruses from genetically diverse primary isolates. Retrovirology 2010 Feb 16; 7:11. [PubMed: 20158904]

2. Dey B, Del Castillo CS, Berger EA. Neutralization of human immunodeficiency virus type 1 by sCD4–17b, a single-chain chimeric protein, based on sequential interaction of gp120 with CD4 and coreceptor. J Virol. 2003 March; 77(5):2859–2865. [PubMed: 12584309]

Patent Status:

HHS Reference No. E–039–1999/0—

- U.S. Patent No. 7,115,262, issued 03 Oct 2006.
- U.S. Application No. 11/535,957, filed 27 Sep 2006, published 18 Oct 2007 as 20070243208.
- Australian Patent No. 765218, issued 30 Jul 2003.
- European Patent No. 1161445 issued 03 Sep 2008 for France, Germany, Great Britain, Italy.
- Applications pending in Canada, Japan.

Licensing Status: Available for licensing.

Licensing Contacts: Uri Reichman, PhD, MBA; 301–435–4616; *ur7a@nih.gov;* or Susan Ano, PhD, 301–435–5515; *anos@mail.nih.gov*.

Collaborative Research Opportunity: The NIAID, Office of Technology Development, is seeking statements of capability or interest from parties interested in collaborative research to further develop, evaluate, or commercialize "A Novel Chimeric Protein for Prevention and Treatment of HIV Infection." Please contact Marguerite J. Miller at 301–435–8619 for more information.

Dated: May 20, 2010.

Richard U. Rodriguez,

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

[FR Doc. 2010–12794 Filed 5–26–10; 8:45 am]

BILLING CODE 4140–01–P

DEPARTMENT OF HEALTH AND HUMAN SERVICES

National Institutes of Health

Government-Owned Inventions; Availability for Licensing

AGENCY: National Institutes of Health, Public Health Service, HHS.

ACTION: Notice.

SUMMARY: The inventions listed below are owned by an agency of the U.S. Government and are available for licensing in the U.S. in accordance with 35 U.S.C. 207 to achieve expeditious commercialization of results of Federally-funded research and development. Foreign patent applications are filed on selected inventions to extend market coverage for companies and may also be available for licensing.

ADDRESSES: Licensing information and copies of the U.S. patent applications listed below may be obtained by writing to the indicated licensing contact at the Office of Technology Transfer, National Institutes of Health, 6011 Executive Boulevard, Suite 325, Rockville, Maryland 20852–3804; telephone: 301/496–7057; fax: 301/402–0220. A signed Confidential Disclosure Agreement will be required to receive copies of the patent applications.

UOK 257, the First BHD Tumor Cell Line, and UOK257–2 Wild Type FLCN-Restored Renal Cell Line as *In Vitro* and *In Vivo* Models of Energy/Nutrient Sensing Through the AMPK and mTOR Signaling Pathways

Description of Invention: Scientists at the National Institutes of Health (NIH) have developed a novel renal cell carcinoma (RCC) cell line designated UOK257, which was derived from the surgical kidney tissue of a patient with hereditary Birt-Hogg-Dube' (BHD) syndrome and companion cell line UOK257–2 in which FLCN expression has been restored by lentivirus infection. These cell lines harbors a germline mutation of FLCN gene (alias BHD) and displays loss of heterozygosity, can grow as xenograft in nude mice. Patients affected with BHD develop skin papules (fibrofolliculomas), lung cysts, spontaneous pneumothorax and an increased risk for bilateral multifocal renal tumors. Loss of both copies of the FLCN gene has been documented in BHD renal tumors; however, the molecular mechanisms by which inactivation of the encoded protein, folliculin, leads to the BHD phenotype are currently unknown. They have developed an important research tool for in vitro folliculin functional studies. The companion cell line will be extremely useful for comparative biochemical analyses of cell culture systems in which the FLCN gene is either expressed or inactivated, including identification of renal tumor biomarkers, alteration of biochemical pathways resulting from loss of FLCN

function, tumorigenicity of FLCN null versus FLCN restored cells, preclinical therapeutic drug testing in xenograft animal models produced from injection of these cell lines, etc. UOK 257 and UOK257–2 are thus useful cell models for studying the underlying molecular derangements associated with mTOR pathways and other biogenesis pathways in human kidney cancer and for evaluating novel therapeutic approaches for this disease. UOK257 is also one of the 40-member renal cancer cell lines in the Tumor Cell Line Repository of the Urologic Oncology Branch (UOB), National Cancer Institute (NCI).

Applications

• *In vitro* and *in vivo* cell model for BHD cancer syndrome. Research tool for investigating the underlying molecular mechanisms contributing to advanced BHD, including the identification of new BHD tumor antigens for immunotherapy.

• Research tool for studying genes transcription status of genes involved in BHD to reveal the genetic processes occurring in BHD tissues that may contribute to advanced disease.

• Positive control cell line for *FLCN* gene expression and function studies, including cytogenetics, gene mutation research, and examination abnormalities of interaction with other proteins that may contribute to BHD.

• Research tools for testing the activity of potential anti-cancer drugs against BHD, a disease which has no effective treatment options; tool for searching tumor markers for diagnosis, prognosis and drug resistance.

• Therapeutic drug testing for targeting BHD renal tumors, possible starting material for developing a cancer vaccine against BHD.

Advantages

• *Cell line is derived from a BHD patient:* These cell lines are anticipated to retain many features of primary BHD samples and novel BHD antigens identified from this cell line are likely to correlate with antigens expressed on human BHD type of RCC tumors. Studies performed using these cell lines may have a direct correlation to the initiation, progression, treatment, and prevention of BHD type of RCC in humans.

• *Molecular and genetic features are well characterized:* This cell line is part of NCI Urologic Oncology Branch's Tumor Cell Line Repository. The inventor has elucidated many physical characteristics of the cell lines, including chromosomal attributes and valuable studies on functions of *BHD* gene, their data suggest that *FLCN,* mutated in the BHD syndrome, and its novel interacting partner, *f*olliculi*n-i*nteracting *p*rotein (FNIP1), may be involved in energy and/or nutrient sensing through the AMPK and mTOR signaling pathways.

Inventor: W. Marston Linehan (NCI).

Related Publications

1. Yang Y, Padilla-Nash HM, Vira MA, Abu-Asab MS, Val D, Worrell R, Tsokos M, Merino MJ, Pavlovich CP, Ried T, Linehan WM, Vocke CD. The UOK 257 cell line: a novel model for studies of the human Birt-Hogg-Dubé gene pathway. Cancer Genet Cytogenet. 2008 Jan 15;180(2):100–109. [*PubMed:* 18206534.]

2. Baba M, Hong SB, Sharma N, Warren MB, Nickerson ML, Iwamatsu A, Esposito D, Gillette WK, Hopkins RF 3rd, Hartley JL, Furihata M, Oishi S, Zhen W, Burke TR Jr, Linehan WM, Schmidt LS, Zbar B. Folliculin encoded by the BHD gene interacts with a binding protein, FNIP1, and AMPK, and is involved in AMPK and mTOR signaling. Proc Natl Acad Sci USA. 2006 Oct 17;103(42):15552–15557. [*PubMed:* 17028174.]

Patent Status: HHS Reference No. E–131–2010/0—Research Tool. Patent protection is not being pursued for this technology.

Licensing Status: Available for licensing under a Biological Materials License Agreement.

Licensing Contact: Betty B. Tong, Ph.D.; 301–594–6565; *tongb@mail.nih.gov*.

Collaborative Research Opportunity: The Center for Cancer Research, Urologic Oncology Branch, is seeking statements of capability or interest from parties interested in collaborative research to further develop, evaluate, or commercialize kidney cancer tumor cell lines as described in above abstract through MTA, CRADAs, CTAs, BML, *etc.:*

• For laboratory interests in the basis of metazoan tumor cell survival, including growth factor-regulated nutrient uptake; glucose or glutamine metabolism and epigenetic gene control; tumor cell bioenergetics and cell growth through AMPK and mTOR signaling pathways.

• *In vitro* and *in vivo* cell model for BHD cancer syndrome. It is a valuable research tool for a laboratory interested in identification of new BHD tumor antigens for immunotherapy.

• These paired cell lines for *FLCN* gene expression and function studies, including gene therapy, cytogenetics, gene mutation research, and examination of abnormalities of interaction with other proteins that may contribute to BHD.

• The excellent *in vivo* model for preclinical xenograft imaging, including stable transfection. Cells could be labeled with reagents for PET, Luciferase, Fluorescence, for transgenic mice, optical molecular imaging, *etc.,* and provides a useful platform for preclinical drug evaluations.

Please contact John Hewes, Ph.D. at 301–435–3131 or *hewesj@mail.nih.gov* for more information.

Highly Sensitive microRNA 31 *in situ* Hybridization Assay To Detect Endometrial Cancer

Description of Invention: Investigators at the National Cancer Institute have developed a sensitive, specific and robust human microRNA *in situ* hybridization (ISH) assay that can detect, quantify, and identify cancer biomarkers. Currently available microRNA (miRNA) markers can be detected by microarray, Northern Blot, real time RT–PCR, and sequencing analysis. However, these assays cannot specify tissue and cell types that contain miRNAs without laser microdissection (LMD). LMD has severe limitations as it requires expensive equipment and its miRNA yields are too low to be detected by the aforementioned techniques.

Available for licensing is an optimized an ISH assay to detect miRNAs. ISH represents an efficient and specific assay to detect miRNA of interest due to direct interaction with specific tissue and cell types. This ISH assay utilized fresh cell lines and it can be adapted to frozen cells and tissue samples. Utilizing the assay, the investigators have found that miRNA–31 is decreased in cancerous endometrial cells in comparison to controls. This ISH assay provides for a less expensive, more efficient and highly sensitive assay to detect and quantify microRNAs.

Applications

• Method to detect and quantify miRNAs.

• Method and kits to diagnose endometrial cancer.

Advantages: Cost effective, highly sensitive assay to detect miRNAs.

Development Status: The technology is currently in the pre-clinical stage of development.

Market

• U.S. microRNA revenues were $20 million in 2008 will increase to more than an estimated $98 million in 2015.

• Global cancer market is worth more than eight percent of total global pharmaceutical sales.

• Cancer industry is predicted to expand to $85.3 billion by 2010.

Inventors: Hui Han and John E. Niederhuber (NCI).

Patent Status: U.S. Provisional Application No. 61/253,617 filed 21 Oct 2009 (HHS Reference No. E–303–2009/0–US–01).

Licensing Status: Available for licensing.

Licensing Contact: Jennifer Wong; 301–435–4633; *wongje@mail.nih.gov*.

Dated: May 20, 2010.

Richard U. Rodriguez,

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

[FR Doc. 2010–12790 Filed 5–26–10; 8:45 am]

BILLING CODE 4140–01–P

DEPARTMENT OF HEALTH AND HUMAN SERVICES

Food and Drug Administration

[Docket No. FDA–1997–D–0008] (formerly Docket No. 1997D–0318)

Guidance for Industry: Revised Preventive Measures to Reduce the Possible Risk of Transmission of Creutzfeldt-Jakob Disease (CJD) and Variant Creutzfeldt-Jakob Disease (vCJD) by Blood and Blood Products; Availability

AGENCY: Food and Drug Administration, HHS.

ACTION: Notice.

SUMMARY: The Food and Drug Administration (FDA) is announcing the availability of a document entitled "Guidance for Industry: Revised Preventive Measures to Reduce the Possible Risk of Transmission of Creutzfeldt-Jakob Disease (CJD) and Variant Creutzfeldt-Jakob Disease (vCJD) by Blood and Blood Products" dated May 2010. The guidance announced in this notice provides blood collecting establishments and manufacturers of plasma derivatives with comprehensive FDA recommendations intended to minimize the possible risk of transmission of CJD and vCJD from blood and blood products. This guidance document amends the January 2002 guidance document of the same title by: Incorporating donor deferral recommendations for donors who have received a transfusion of blood or blood components in France since 1980, providing updated scientific information on CJD and vCJD, revising labeling recommendations for Whole Blood and blood components intended for transfusion, and recognizing AABB's full Donor History Questionnaire Version 1.3 as an acceptable mechanism for collection of donor history information. The guidance announced in this notice supersedes the guidance document entitled "Guidance for Industry: Revised Preventive Measures to Reduce the Possible Risk of Transmission of Creutzfeldt-Jakob Disease (CJD) and Variant Creutzfeldt-Jakob Disease (vCJD) by Blood and Blood Products" dated January 2002 (2002 guidance), and the draft guidance document entitled "Draft Guidance for Industry: Amendment (Donor Deferral for Transfusion in France Since 1980) to "Guidance for Industry: Revised Preventive Measures to Reduce the Possible Risk of Transmission of Creutzfeldt-Jakob Disease (CJD) and Variant Creutzfeldt-Jakob Disease (vCJD) by Blood and Blood Products'" dated August 2006 (2006 draft guidance).

DATES: Submit electronic or written comments on agency guidances at any time.

ADDRESSES: Submit written requests for single copies of the guidance to the Office of Communication, Outreach and Development (HFM–40), Center for Biologics Evaluation and Research (CBER), Food and Drug Administration, 1401 Rockville Pike, suite 200N, Rockville, MD 20852–1448. Send one self-addressed adhesive label to assist the office in processing your requests. The guidance may also be obtained by mail by calling CBER at 1–800–835–4709 or 301–827–1800. See the **SUPPLEMENTARY INFORMATION** section for electronic access to the guidance document.

Submit electronic or written comments on the guidance. Submit electronic comments to *http://www.regulations.gov*. Submit written comments to the Division of Dockets Management (HFA–305), Food and Drug Administration, 5630 Fishers Lane, rm. 1061, Rockville, MD 20852.

FOR FURTHER INFORMATION CONTACT: Denise Sánchez, Center for Biologics Evaluation and Research (HFM–17), Food and Drug Administration, 1401 Rockville Pike, suite 200N, Rockville, MD 20852–1448, 301–827–6210.

SUPPLEMENTARY INFORMATION:

I. Background

FDA is announcing the availability of a document entitled "Guidance for Industry: Revised Preventive Measures to Reduce the Possible Risk of Transmission of Creutzfeldt-Jakob Disease (CJD) and Variant Creutzfeldt-Jakob Disease (vCJD) by Blood and Blood Products" dated May 2010. This guidance amends the 2002 FDA guidance of the same title by incorporating donor deferral recommendations as to donors in France (as announced in the 2006 draft guidance), providing updated scientific information on CJD and vCJD, revising labeling recommendations for Whole Blood and blood components intended for transfusion, and recognizing the use of AABB's full Donor History Questionnaire Version 1.3 as an acceptable mechanism that is consistent with FDA requirements and recommendations for collecting donor history information.

In the **Federal Register** of January 16, 2002 (67 FR 2226), FDA announced the availability of a guidance entitled "Guidance for Industry: Revised Preventive Measures to Reduce the Possible Risk of Transmission of Creutzfeldt-Jakob Disease (CJD) and Variant Creutzfeldt-Jakob Disease (vCJD) by Blood and Blood Products" dated January 2002 (the 2002 guidance). The 2002 guidance finalized recommendations to all blood collecting establishments and manufacturers of plasma derivatives for deferral of donors with possible exposure to the CJD and vCJD agents. In the **Federal Register** of August 14, 2006 (71 FR 46484), FDA announced the availability of a draft guidance entitled "Draft Guidance for Industry: Amendment (Donor Deferral for Transfusion in France Since 1980) to 'Guidance for Industry: Revised Preventive Measures to Reduce the Possible Risk of Transmission of Creutzfeldt-Jakob Disease (CJD) and Variant Creutzfeldt-Jakob Disease (vCJD) by Blood and Blood Products'" (the 2006 draft guidance). The 2006 draft guidance was intended to amend the 2002 guidance by adding a donor deferral recommendation for donors who have received a transfusion of blood or blood components in France since 1980. Specifically, in the 2006 draft guidance, we stated that we intended to incorporate the new donor deferral recommendation after receiving comments on the draft guidance and reissue the revised 2002 guidance as a level 2 guidance document for immediate implementation (71 FR 46484, August 14, 2006). Upon further consideration, however, we believe it appropriate to issue the guidance announced in this notice as a level 1 guidance document.

The guidance is being issued consistent with FDA's good guidance practices regulation (21 CFR 10.115). The guidance represents FDA's current thinking on this topic. It does not create or confer any rights for or on any person and does not operate to bind FDA or the public. An alternative approach may be used if such approach satisfies the