SUMMARY: The U.S. National Institutes of Health seeks exclusive or non-exclusive licensee(s) for certain aspects of technology encompassed within the following U.S. (and corresponding international) patent and patent application: 5,843,882 issued December 1, 1998, entitled ''Antiviral Proteins and Peptides'', and Serial No. 08/969,378 filed November 13, 1997, entitled ''Methods of Using Cyanovirins to Inhibit Viral Infectivity'' (in accordance with 35 U.S.C. 207 and 37 CFR Part 404).

More specifically, licensee(s)is (are) sought to develop and commercialize microbicidal compositions, formulations, devices and/or methods directly incorporating the unique, HIV-inactivating protein, cyanovirin-N (CV–N), for topical use to prevent sexual transmission of HIV infection and disease.

ADDRESSES: Inquiries concerning this licensing opportunity should be directed to Dr. Carol Salata, Technology Licensing Specialist, Office of Technology Transfer, National Institutes of Health, 6011 Executive Boulevard, Suite 325, Rockville, MD 20852–3804; telephone: 301–496–7735 ext. 232; fax: 301–402–0220; e-mail: salatac@od.nih.gov. A signed Confidential Disclosure Agreement will be required to receive copies of the patent application.

SUPPLEMENTARY INFORMATION: The development of an effective anti-Hiv topical microbicide, especially a female-controlled, vaginal microbicide, has been deemed an urgent global priority by numerous international agencies, incuding the World Health Organization, the U.S. Department of Health and Human Services, the National Institute of Allergy and Infectious Diseases, and others.

Cyanovirin-N (CV–N) is a unique, 101 amino acid protein discovered,[1] by U.S. government scientists, as a constituent of a cultured cyanobacterium, *Nostoc ellipsosporum*. *CV–N has* subsequently been produced recombinantly in *E. coli.*[3] Both the sequence [1] and the 3–D solution structure [2] of CV–N are unprecedented.

CV–N potently and irreversibly inactivates diverse primary strains of HIV–1, including M-tropic forms involved in sexual transmission of HIV, as well as T-tropic and dual-tropic forms; CV–N also blocks cell-to-cell transmission of HIV infection.[1] CV–N is directly virucidal, interacting in an unusual manner with the viral envelope, apparently binding with extremely high affinity to poorly immunogenic epitopes on gp120.[1, 3]

CV–N was benign in *vivo* when tested in the rabbit vaginal toxicity/irritancy model, and was not cytotoxic *in vitro* against human immune cells and lactobacilli (unpublished). CV–N is readily soluble in aqueous media, is remarkably resistant to physicochemical degradation,[1] and, is amendable to very large-scale production by a variety of genetic engineering approaches.

Selected References

1. Boyd, M.R., Gustafson, K.R., McMahon, J.B., Shoemaker, R.H., O'Keefe, B.R., Mori, T., Gulakowski, R.J., Wu, L., Rivera, M., Laurencot, C.M., Cardellina, J.H. II, Buckheit, R.W. Jr., Nara, P.L., Pannel, L.K., Sowder, R.C. II, Henderson, L.E.: Discovery of cyanovirin-N, a novel human immunodeficiency virus-inactivating protein that binds viral surface envelope glycoprotein gp120; potential applications to microbicide development. *Antimicrob. Agents Chemother.* 41: 1521–1530, 1997.
2. Bewley, C.A., Gustafson, K.R., Boyd, M.R., Covell, D.G., Bax, A., Clore, G.M., Gronenborn, A.M.: Solution structure of cyanovirin-N, a potent HIV-inactivating protein. *Nature Struct. Biol.* 5: 571–578, 1998.
3. Mori, T., Gustafson, K.R., Pannell, L.K., Shoemaker, R.H., Wu, L., McMahon, J.B., Boyd, M.R.: Recombinant production of cyanovirin-N, a potent HIV (human immunodeficiency virus)-inactivating protein derived from a cultured cyanobacterium. *Protein Expr. Purif.* 12: 151–158, 1998.
4. Esser, M.T., Mori, T., Mondor, I., Sattentau, Q., Dey, B., Berger, E.A., Boyd, M.R., Lifson, J.D.: Cyanovirin-N binds to gp120 to interfere with CD4-dependent HIV-1 virion binding, infectivity, and fusion, but does not affect the CD4 binding site on gp120 or soluble CD4 induced conformational changes in gp120. *J. Virol.* 73:4360–4371, 1999.

Dated: May 28, 1999.

Jack Spiegel,

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

[FR Doc. 99–14375 Filed 6–4–99; 8:45 am]

BILLING CODE 4140–01–M

DEPARTMENT OF HEALTH AND HUMAN SERVICES

National Institutes of Health

Government-Owned Inventions; Availability for Licensing

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

ACTION: Notice.

SUMMARY: The inventions listed below are owned by agencies 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 contacting Girish C. Barua, Ph.D. at the Office of Technology Transfer, National Institutes of Health, 6011 Executive Boulevard, Suite 325, Rockville, Maryland 20852–3804; telephone: 301/496–7056 ext. 263; fax: 301/402–0220; e-mail: gb18t@nih.gov. A signed Confidential Disclosure Agreement will be required to receive copies of the patent applications.

Modulation of N-Acetyl-Transferase To Improve Therapy and Prevent Cancer

Jerry M. Collins, Raymond W. Klecker, Aspandiar G. Katki (FDA)
DHHS Reference No. E–268–98/0 filed 16 Apr 99

This technology describes a method in which an inhibitor of an arylamine N-acetyl transferase (NAT), a member of a common enzyme family, is administered to a human to inhibit acetylation reactions resulting in production of cytotoxic or carcinogenic compounds in the treated individual. Nearly all drugs are metabolized in the human body by enzymes. Although metabolism generally lowers the toxicity of drugs, the opposite effect is often encountered with NAT. With NAT, the resulting metabolite is more toxic than the parent drug. Administering an inhibitor of NAT with such drugs is believed to result in decreased toxicity to the patient because of reduced exposure to the metabolite. Reduced exposure to the metabolite is believed to be beneficial to patients because the reduction in toxicity results in the maximization of the benefits of the parent drug. Accordingly, this method could be utilized in many therapeutic areas, since drugs which are metabolized by NAT are used in most medical disciplines, including heart disease, infectious diseases, and oncology. The technology also describes the acetylation capacity of NAT's link to human tumors. The acetylation capacity can be reduced by an enzyme inhibitor which may lead to a decrease in human cancer. This concept identifies NAT as a novel target, to expand and improve a general strategy which is currently-emerging, known as ''chemoprevention''. Finally, the technology describes specific inhibitors

of NAT in human hepatocytes, e.g., para-amino salicylate (PAS) for NAT1 and dichlorphenamide for NAT2, which can be used either in chemoprevention of cancer or in conjunction with a chemotherapeutic which metabolizes NAT, potentially resulting in reduced toxicity to the patient. Since these inhibitors are currently-marketed drugs, clinical development can be accelerated, and pilot studies are already underway.

Methods for Inhibiting Chaperone Proteins

Monica G. Marcu, Leonard M. Neckers, Theodor W. Schulte (NCI)
Serial No. 60/124,135 filed 12 Mar 99

This technology describes the use of an antibiotic, Novobiocin, that has been used clinically in people for many years. This compound and structural analogues such as chlorobiocin and coumermycin A1, which are coumarins, have been discovered to bind to Heat Shock Protein 90 (Hsp90), resulting in the destabilization and proteolytic degradation of a number of proteins whose function and stability depend on their association with Hsp90. These proteins include oncogenic kinases such as Raf, Her2/neu(erbB2), and Src, and transcription factors such as mutant p53. Novobiocin has demonstrated an ability to deplete Raf from the spleens of mice, suggesting that it may have anti-Hsp90 biologic properties in humans. Novobiocin and its analogues are an improvement on currently known chemotherapeutics such as geldanamycin because these compounds lack both a quinone and a macrocycle in their chemical structure and are thus better tolerated and less toxic to humans at high dosages.

Identification of The Geldanamycins as Inhibitors of The HGF/SF–Met–uPA Proteolytic Network

Craig Webb, Curtis Hose, Anne P. Monks, George F. Vande Woude, Edward A. Sausville (NCI)
Serial No. 60/119,114 filed 08 Feb 99

This technology describes a class of compounds (Geldanamycins) as important inhibitors to the HGF–SF–Met–uPA–plasmin signaling pathway. Considerable evidence demonstrates that the HGF–SF–Met pathway plays a significant role in the etiology of human cancers and the formation of secondary metastases. These compounds have the ability to revert certain transformed phenotypes through down regulation of the expression of the Met receptor at subnanomolar concentrations. Thus, these compounds could have utility in the treatment and therapy of invasive human cancers where the HGF–SF–Met pathway is implicated.

Food Quality Indicator Device

Dwight W. Miller, Jon G. Wilkes, Eric D. Conte (FDA)
DHHS Reference No. E–093–97/1 filed 16 Jul 98

The invention is a device which indicates the quality of frozen food by colorimetrically detecting bases generated by decomposition. The food quality indicator consists of a paper strip or other insert support treated with proprietary compounds for detection at temperatures below zero degree C of Bacteriological and/or enzymatic food decomposition. It operates without thawing frozen foods, and for excellent application for seafoods such as shrimp, fish as well as red meat.

Sensitive Assay for Measuring Gallium Levels in Body Tissues and Fluids

Edward Reed, Kang B. Lee (NCI)
Serial No. 08/355,153 filed 08 Dec 94; U.S. Patent 5,650,627 issued 22 Jul 97

A sensitive assay method for measuring the quantity of elemental gallium present in a test sample comprising a body tissue or body fluid. The method involves a test sample after diluting with nitric acid to be introduced into atomic absorption spectrometer having a Zeeman-effect background correction capability. Sample absorption to be determined at a desired wavelength while subjecting the test sample to an atomization and a burning in an atomic spectrometer. A correction of Zeeman effect to be made on the said determined absorption and comparing corrected absorption for the test sample with a standard curve.

Dated: May 28, 1999.

Jack Spiegel,

Director, Division of Technology, Development and Transfer, Office of Technology Transfer.

[FR Doc. 99–14376 Filed 6–4–99; 8:45 am]

BILLING CODE 4140–01–M

DEPARTMENT OF HEALTH AND HUMAN SERVICES

National Institutes of Health

Government-Owned Inventions; Availability for Licensing

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

ACTION: Notice.

SUMMARY: The inventions listed below are owned by agencies 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.

N-Acylphosphoramidites and Their Use in Oligonucleotide Synthesis

Serge Beaucage et al. (FDA)
DHHS Reference No. E–031–98/0 filed 24 Mar 99
Licensing Contact: Charles Maynard; 301/496–7735 ext. 243; e-mail: cm251n@nih.gov

This technology relates to the synthesis of oligonucleotides, and intermediates useful in its synthesis. The therapeutic application of oligonucleotides is based on the selective formation of hybrids between antisense oligonucleotides and complimentary nucleic acids, such as messenger RNAs. Such hybrids inhibit gene expression by blocking protein translation. Successful inhibition of gene expression requires the antisense oligonucleotide to be nuclease resistant so that it can be successfully transported through biological membranes and can hybridize selectively to a target complementary nucleic acid, thereby actively blocking protein translation.

This present invention of synthesizing polymers has tremendous synthetic advantages that are unprecedented with respect to the synthesis of oligonucleotides in that it enables the facile production of P-chiral oligomeric or polymeric products, with complete control of stereochemistry with respect to the phosphorous atom.

Identification and Use of High Efficacy Vaccine Antigens

Ronald N. Germain (NIAID), Irena Stefanova (NIAID), Roland Martin (NINDS), Marco Vergelli (NINDS), Bernhard Hemmer (NINDS)
Serial No. 60/124,064 filed 12 Mar 99
Licensing Contact: Richard U. Rodriguez; 301/496–7056 ext. 287; e-mail: rr154z@nih.gov

The invention relates to the identification and use of high efficacy