1. A demonstrated record of success in some or all of the following areas: molecular biology, the development of small molecule therapeutics, and high throughput screening of compounds.

2. A demonstrated background and expertise in growth factor and cytokine research.

3. The ability to collaborate with NCI on further research and development of this technology. This ability will be demonstrated through experience and expertise in this or related areas of technology indicating the ability to contribute intellectually to ongoing research and development.

4. The demonstration of adequate resources to perform the research and development of this technology (e.g. facilities, personnel and expertise) and to accomplish objectives according to an appropriate timetable to be outlined in the CRADA Collaborator's proposal.

5. The willingness to commit best effort and demonstrated resources to the research and development of this technology, as outlined in the CRADA Collaborator's proposal.

6. The demonstration of expertise in the commercial development and production of products related to this area of technology.

7. The level of financial support the CRADA Collaborator will provide for CRADA-related Government activities.

8. The willingness to cooperate with the National Cancer Institute in the timely publication of research results.

9. The agreement to be bound by the appropriate DHHS regulations relating to human subjects, and all PHS policies relating to the use and care of laboratory animals.

10. The willingness to accept the legal provisions and language of the CRADA with only minor modifications, if any. These provisions govern the distribution of future patent rights to CRADA inventions. Generally, the rights of ownership are retained by the organization that is the employer of the inventor, with (1) the grant of a license for research and other Government purposes to the Government when the CRADA Collaborator's employee is the sole inventor, or (2) the grant of an option to elect an exclusive or nonexclusive license to the CRADA Collaborator when the Government employee is the sole inventor.

Dated:November 12, 2000.

Kathleen Sybert,

Chief, Technology Development and Commercialization Branch, National Cancer Institute, National Institutes of Health.

[FR Doc. 00–29718 Filed 11–20–00; 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, 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.

Enhanced Homologous Recombination Mediated by Lambda Recombination Proteins

Donald L. Court, Daiguan Yu, E-Chaing Lee, Hilary Ellis, Nancy A. Jenkins, Neal G. Copeland (NCI), DHHS Reference No. E–177–00/0 filed 14 Aug 2000, Licensing Contact: Dennis Penn; 301/496–7056 ext. 211; e-mail: *pennd@od.nih.gov*.

The present invention concerns methods to enhance homologous recombination in bacteria and eukaryotic cells using recombination proteins derived from bacteriophage lambda. It also concerns methods for promoting homologous recombination using other recombination proteins.

Concerted use of restriction endonucleases and DNA ligases allows in vitro recombination of DNA sequences. The recombinant DNA generated by restriction and ligation may be amplified in an appropriate microorganism such as E. coli, and used for diverse purposes including gene therapy. However, the restriction-ligation approach has two practical limitations: first, DNA molecules can be precisely combined only if convenient restriction sites are available; second, because useful restriction sites often repeat in a long stretch of DNA, the size of DNA fragments that can be manipulated are limited, usually to less than about 20 kilobases.

Homologous recombination, generally defined as an exchange of homologous segments anywhere along a length of two DNA molecules, provides an alternative method for engineering DNA. In generating recombinant DNA with homologous recombination, a microorganism such as E. coli, or a eukaryotic cell such as a yeast or vertebrate cell, is transformed with an exogenous strand of DNA. The center of the exogenous DNA contains the desired transgene, whereas each flank contains a segment of homology with the cell's DNA. The exogenous DNA is introduced into the cell with standard techniques such as electroporation or calcium phosphate-mediated transfection, and recombines into the cell's DNA, for example with the assistance of recombination-promoting proteins in the cell.

In generating recombinant DNA by homologous recombination, it is often advantageous to work with short linear segments of DNA. For example, a mutation may be introduced into a linear segment of DNA using polymerase chain reaction (PCR) techniques. Under proper circumstances, the mutation may then be introduced into cellular DNA by homologous recombination. Such short linear DNA segments can transform yeast, but subsequent manipulation of recombinant DNA in yeast is laborious. It is generally easier to work in bacteria, but linear DNA fragments do not readily transform bacteria (due in part to degradation by bacterial exonucleases). Accordingly, recombinants are rare, require special poorly-growing strains (such as RecBCD-strains) and generally require thousands of base pairs of homology. This invention teaches an improved method of promoting homologous recombination in bacteria.

In eukaryotic cells, targeted homologous recombination provides a basis for targeting and altering essentially any desired sequence in a duplex DNA molecule, such as targeting a DNA sequence in a chromosome for replacement by another sequence. This invention teaches methods useful for treating human genetic diseases, the creation of transgenic animals, or modifying the germline of other organisms.

Amelogenin Knockout Mice and Use as Models for Tooth Disease

Dr. Ashok Kulkarni et al. (NIDCR), DHHS Reference No. E–167–00/0, Licensing Contact: John Rambosek; 301/

496–7056 ext. 270; e-mail: *rambosej@od.nih.gov.*

This technology relates to transgenic knockout mice that may serve as an animal model for dental disease. Using gene-targeting techniques, mice have been created which are disrupted for the amelogenin gene. These mice lack the amelogenin protein, which is normally expressed only in the teeth. Since these mice lack this protein, they are expected to mimic an inherited tooth disorder called ''amelogenesis imperfecta (AI)''. AI is an inherited condition that is transmitted as a dominant trait and causes the enamel of the tooth to be soft and thin resulting in discoloration, disintegration and disfigurement of the teeth. The damaged teeth are also susceptible to decay. The amelogenin knockout mice display an interesting tooth phenotype. Their maxillary incisors are chalky white in color and opaque in appearance.

These changes are associated with mild attrition of incisor tips and molar cusps. Detailed analysis of this phenotype is in progress. The amelogenin knockout mice may be used as an animal model to develop therapeutic approaches to AI.

Transgenic Mouse Model for Tooth Disorders Such as Dentin Dysplasia and Dentinogenesis Imperfecta

Drs. Thyagarajan, Sreenath, and Kulkarni (NIDCR), DHHS Reference No. E–150–00/0, Licensing Contact: John Rambosek, Ph.D.; 301/496–7056; e-mail: *rambosej@od.nih.gov.*

This technology describes transgenic mice that selectively overexpress transforming growth factor beta-1 (TGF-beta1) in odontoblast and ameloblast cells of teeth. Ameloblasts mainly make enamel, whereas odontoblasts make dentin. These transgenic mice mimic dental symptoms similar to those seen in common tooth disorders such as dentin dysplasia and dentinogenesis imperfecta. Both of these human dentin defects are inherited in an autosomal dominant manner and appear to be caused by abnormal dentin production by odontoblasts and associated poor mineralization of the dentin matrix. In both diseases, teeth are discolored and fractured, causing difficulties in eating food. Experimentally, these mice display discolored and fractured teeth with defective dentin. This transgenic mice model will be valuable to advance our understanding of the molecular pathogenesis underlying dentin dysplasia and dentinogenesis imperfecta and also for developing therapeutic strategies.

This material is available for licensing through a PHS Biological Materials License.

Dated: November 13, 2000.

Jack Spiegel,

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

[FR Doc. 00–29716 Filed 11–20–00; 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, DHHS.

ACTION: Notice.

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ADDRESSES: Licensing information and copies of the U.S. patent applications listed below may be obtained by contacting Dale Berkley, Ph.D., J.D., at the Office of Technology Transfer, National Institutes of Health, 6011 Executive Boulevard, Suite 325, Rockville, Maryland 20852–3804; telephone: 301/496–7735 ext. 223; fax: 301/402–0220; e-mail: berkleyd@od.nih.gov. A signed Confidential Disclosure Agreement will be required to receive copies of the patent applications.

Automated Core Biopsy Instrument

Erik Kass, Carter Vanwaes (NIDCD), DHHS Reference No. E–269–00/0 filed 20 Sep 2000.

The invention is an automated core biopsy instrument that may be operated with one hand. The instrument has a single activation element that causes a stylet to advance into the tissue of interest as a cutting cannula disposed around the stylet is fired to shear off the tissue into specimen notches disposed in the stylet. The invention is constructed so that the stylet and cutting cannula may be separately driven and biased. The cocking mechanism of the automated core biopsy instrument is used to cock both the stylet assembly and cutting cannula assemblies against separate biasing springs. Manipulation of the cocking mechanism permits the exposure of tissue in the specimen notches when desired. The instrument has a locking mechanism that is used to prevent inadvertent firing of the automated core biopsy instrument.

EZ Navigator and EZ Forms Software

Andrew Schwartz, William K. Jones, Michelle R. Ugas, Ta-Jen Hu (CIT), DHHS Reference No. E–236–00/0.

The EZStart invention is a method of accessing a database management system that can be used to convert non-relational data to relational data and create and manage relational data over a network such as the Internet. The invention provides user-friendly access to data stored in a database management system, allowing users with little or no knowledge of database management systems to access, store and manage data using only a web browser. EZStart provides a generic platform from which any user can select, insert, update and delete data without creating a custom software application for each user. The invention automatically generates navigation and data forms, allowing access to a Relational Database Management System (RDBMS) while masking the complexity of the RDBMS. Using a function of EZStart coined EZNavigator, users can easily maneuver through the RDBMS, view lists of objects, drill-down into column, view and index definitions, and manage object privileges. A separate function of EZStart, known as EZForms, allows a user to select, insert, update and delete rows in tables. No Structured Query Language (SQL) knowledge is required to perform these functions, but advanced users can use EZForms to generate SQL into a text area for modification and execution of the SQL. The SQL can be saved into and retrieved from a repository.

Integrated Low Field MRI/RF EPRI for Co-Registering Imaging of In Vivo Physiology and Anatomy in Living Objects

Murali K. Cherukuri et al. (NCI), DHHS Reference No. E–120–99/0 filed 01 Nov 1999.

Obtaining physiological information in a non-invasive manner from living tissue will provide valuable information, rather than invasive methods that are sometimes not available and also may damage living tissue. EPRI (Electron Paramagnetic Resonance Imaging) is the technique to investigate physiological information such as oxygen imaging and