

disadvantaged background. In return for this support, students of allopathic and osteopathic medicine must agree to complete residency training in primary care in 4 years, and practice in primary

care for 5 years after completing residency training.

The program regulations contain recordkeeping requirements designed to ensure that schools maintain adequate

records for the government to monitor program activity and that funds are spent as intended. The estimate of burden for the regulatory requirements of this clearance are as follows:

Form	Number of respondents	Responses per respondents	Total responses	Minutes per response	Total burden hours
EFN/FADHPS	80	1	80	10	14

Written comments and recommendations concerning the proposed information collection should be sent within 30 days of this notice to: John Morrall, Human Resources and Housing Branch, Office of Management and Budget, New Executive Office Building, Room 10235, Washington, DC 20503.

Dated: January 12, 2001.

Jane M. Harrison,

Director, Division of Policy Review and Coordination.

[FR Doc. 01-1612 Filed 1-19-01; 8:45 am]

BILLING CODE 4160-15-P

DEPARTMENT OF HEALTH AND HUMAN SERVICES

Health Resources and Services Administration

Advisory Council; Notice of Meeting

In accordance with section 10(a)(2) of the Federal Advisory Committee Act (Public Law 92-463), announcement is made of the following National Advisory body scheduled to meet during the month of February 2001.

Name: National Advisory Council on the National Health Service Corps.

Date and Time: February 1, 2001; 6:00 p.m.–9:00 p.m.; February 2, 2001; 8:30 a.m.–4:30 p.m.; February 3, 2001; 9:00 a.m. to 5:00 p.m.; February 4, 2001; 8:30 a.m.–10:30 a.m.

Place: Double Tree Hotel, 1750 Rockville Pike, Rockville, MD 20852. Phone: (301) 468-1100.

The meeting is open to the public.

Agenda: The Council will focus its agenda on strategic and operational plans for the current fiscal year.

For further information, call Ms. Eve Morrow, Division of National Health Service Corps, at (301) 594-4144.

Agenda items and times are subject to change as priorities dictate.

Dated: January 12, 2001.

Jane M. Harrison,

Director, Division of Policy Review and Coordination.

[FR Doc. 01-1610 Filed 1-19-01; 8:45 am]

BILLING CODE 4160-15-P

DEPARTMENT OF HEALTH AND HUMAN SERVICES

Health Resources and Services Administration

Advisory Committee; Notice of Meeting

In accordance with section 10(a)(2) of the Federal Advisory Committee Act (Public Law 92-463), announcement is made of the following National Advisory body scheduled to meet during the month of February 2001.

The National Advisory Committee on Rural Health will convene its thirty-seventh meeting at the time and place specified below:

Name: National Advisory Committee on Rural Health.

Date and Time: February 4, 2001; 2:00 p.m.–4:45 p.m.; February 5, 2001; 8:30 a.m.–4:45 p.m.; and February 6, 2001; 8:30 a.m.–4:15 a.m.

Place: Washington Court Hotel, 525 New Jersey Avenue, NW., Washington, DC 20001, Phone: (202) 628-2100.

The meeting is open to the public.

Purpose: The National Advisory Committee on Rural Health provides advice and recommendations to the Secretary with respect to the delivery, research, development, and administration of health care services in rural areas.

Agenda: Sunday, February 4, at 2:00 p.m. the chairperson, Senator Nancy Kassebaum Baker will open the meeting and welcome the committee members. The new director of the Office of Rural Health Policy (ORHP) will give an update on office activities. The first plenary session will be a presentation on the Medicare Reform Report. The day will close at 4:45 PM.

Monday morning at 8:30 a.m., there will be presentations on federally qualified health centers and rural health clinics. After lunch, there will be a presentation on what the States are doing about the uninsured. The day will close at 4:45 PM.

Tuesday morning at 8:30 am, the Committee will discuss report recommendations. There will be a presentation on rural public health, and an update on Health Care Financing Administration (HCFA) activities. After lunch, additional presentations and discussion on the uninsured. At the end of the day the Committee will discuss future activities and next meeting. The meeting will be adjourned at 4:15 PM.

Anyone requiring information regarding the Committee should contact Marcia K. Brand, Ph.D., Executive Secretary, National Advisory Committee on Rural Health, Health Resources and Services Administration, Room 9A-55, Parklawn Building, 5600 Fishers Lane, Rockville, MD 20857, telephone (301) 443-0835, FAX (301) 443-2803.

Persons interested in attending any portion of the meeting should contact Sandi Lyles or Lilly Smetana, Office of Rural Health Policy, (301) 443-0835. The National Advisory Committee meeting agenda will be posted on ORHP's website, www.ruralhealth.hrsa.gov.

Dated: January 16, 2001.

Jane M. Harrison,

Director, Division of Policy Review and Coordination.

[FR Doc. 01-1714 Filed 1-19-01; 8:45 am]

BILLING CODE 4160-15-P

DEPARTMENT OF HEALTH AND HUMAN SERVICES

Office of Inspector General; Program Exclusions: December 2000

AGENCY: Office of Inspector General, HHS.

ACTION: Notice of program exclusions.

During the month of December 2000, the HHS Office of Inspector General imposed exclusions in the cases set forth below. When an exclusion is imposed, no program payment is made to anyone for any items or services (other than an emergency item or service not provided in a hospital emergency room) furnished, ordered or prescribed by an excluded party under the Medicare, Medicaid, and all Federal Health Care programs. In addition, no program payment is made to any business or facility, *e.g.*, a hospital, that submits bills for payment for items or services provided by an excluded party. Program beneficiaries remain free to decide for themselves whether they will continue to use the services of an excluded party even though no program payments will be made for items and services provided by that excluded party. The exclusions have national effect and also apply to all Executive

Branch procurement and non-procurement programs and activities.

Subject city, state		Effective date	Subject city, state		Effective date
Program-Related Convictions			Patient Abuse/Neglect Convictions		
Ashkaryan, Gevork	01/18/2001		Anderson, Robert Jr	01/18/2001	
North Hollywood, CA			Hattiesburg, MS		
Barksdale, Evelyn R	01/18/2001		Bridges, Daniel	01/18/2001	
Gillispie, IL			Picayune, MS		
Blum, Eduardo	01/18/2001		Brown, Derek Milton	01/18/2001	
Miami, FL			San Antonio, TX		
Brock, Danny Leslee	01/18/2001		Brown, Carl E	01/18/2001	
Cottageville, SC			Rutland, VT		
Carbone, Francisco	01/18/2001		Burrus, Shantina Marie	01/18/2001	
Weston, CT			Hopkinsville, KY		
Carsillo, Richard	01/18/2001		Carroll, Christopher A	01/18/2001	
Asheville, NC			Wesson, MS		
Downtown Dental Center, PA ..	01/18/2001		Gurwell, Kenneth Warren	01/18/2001	
Paterson, NJ			Susanville, CA		
Foreman, Lenetta Grant	01/18/2001		Harvey, Raysha Kenée	01/18/2001	
Tahlequah, OK			Long Beach, MS		
Gallardo, Omar	01/18/2001		Hutton, Shirley Ann	01/18/2001	
Matamoros, PA			Columbia, MS		
Goodman, Harold F	01/18/2001		Lambriola, Vincent P	01/18/2001	
Quincy, MA			Cedar Grove, NJ		
Gordon, Howard	01/18/2001		Lera, Thomas Alfred Jr	01/18/2001	
Boca Raton, FL			Galveston, TX		
Hamlin, Donald R	01/18/2001		McGregor, Clinton E	01/18/2001	
Burnside, KY			Baltimore, MD		
Isola, Joseph C	01/18/2001		Mize, Erick Wayne	01/18/2001	
Norwell, MA			Stringtown, OK		
Jackson, Robert Jerry	01/18/2001		Moore, Kimberly E	01/18/2001	
Mt. Juliet, TN			Trenton, TN		
Khandwala, Nitin	01/18/2001		Moret, Israel	01/18/2001	
Livingston, NJ			Bridgewater, MA		
Kinloch-Linder, Henri Renee	01/18/2001		Morris, Christel Rozell	01/18/2001	
Walterboro, SC			Tacoma, WA		
Lathan, Janice	01/18/2001		Potter, Rose M	01/18/2001	
Macon, MS			Columbus, OH		
Limon, Josephine Apodaca	01/18/2001		Sledge, Katrina E	01/18/2001	
Glendale, AZ			Macon, MS		
Mack, Demetrius L	01/18/2001		Tanner, Karen S	01/18/2001	
Milwaukee, WI			Columbus, OH		
Madrugá, Jorge	01/18/2001		Wallace, Arthur Cleveland	01/18/2001	
Corona, NY			Elmira, NY		
Neufeld, Elliot Lance	01/18/2001		Williams, Roger L	01/18/2001	
Columbus, OH			Belleville, IL		
Nguyen, Doi Thanh	01/18/2001		Wrinkles, Jeffrey	01/18/2001	
San Diego, CA			W. Plains, MO		
O'Donnell, Carol	01/18/2001		Controlled Substance Convictions		
Syracuse, NY			Chaiet, Melvin	01/18/2001	
Orthopedic Surgery of S. Shore	01/18/2001		Beltsville, MD		
Quincy, MA			Muhar, Ivy Mae	01/18/2001	
Pierce, Ben	01/18/2001		St. Petersburg, FL		
Houston, TX			License Revocation/Suspension/ Surrendered		
Ramos-Santiago, Nelson			Abney, Dennis	01/18/2001	
DeJesus	01/18/2001		Burlingame, CA		
Pensacola, FL			Allen, Joy Holley	01/18/2001	
Rodriguez, Pedro J	01/18/2001		Felony Controlled Substance Conviction		
Charlotte, NC			Draper, Byrant	01/18/2001	
Sailors, Betty Smith	01/18/2001				
Lexington, KY					
Streetman, Donald Ernest	01/18/2001				
Statesboro, GA					
Way, Latoshia E	01/18/2001				
Cottageville, SC					
Welber, Agneta	01/18/2001				
Brooklyn, NY					
Zwiebel, Kenneth	01/18/2001				
Laurel Hollow, NY					

Mabelvale, AR		
Ashmore, Patricia Todd	01/18/2001	
Clifton Hgts, PA		
Atkinson, Deborah Jean	01/18/2001	
Lewisville, TX		
Ball, Louis Albert	01/18/2001	
S. Lake Tahoe, CA		
Barber, Bradley James	01/18/2001	
Potsdam, NY		
Barnes, Deborah D	01/18/2001	
Newport News, VA		
Baumgartner, Debra L	01/18/2001	
Thompson, CT		
Bellin, Eugene Lloyd	01/18/2001	
Bronx, NY		
Berkness, Carrie Lee	01/18/2001	
St. Francis, MN		
Bernhard, Kathleen Mary	01/18/2001	
Port Jervis, NY		
Berry, Cathy Diane Gamble	01/18/2001	
Hanceville, AL		
Bickerstaff, Delton Lee Jr	01/18/2001	
Selma, AL		
Biljan, Sheila Marie	01/18/2001	
Inver Grove Hgts, MN		
Braid, Byron Saul	01/18/2001	
Chadds Ford, PA		
Brooker, Debra Marie	01/18/2001	
Framingham, MA		
Brubaker, Susan Lynne	01/18/2001	
San Anselmo, CA		
Bustamante, Eduardo Munoz ...	01/18/2001	
Amherst, MA		
Byram, James Ray	01/18/2001	
Florence, AL		
Camarata, Anthony	01/18/2001	
Rochester, NY		
Campagnone, Paul J	01/18/2001	
Colchester, VT		
Campos-Deltoro, Carolyn Anne	01/18/2001	
Salem, AR		
Cannon, Kathy M	01/18/2001	
Northridge, CA		
Carron, William Clark	01/18/2001	
Seattle, WA		
Carter-Oberstone, Becky		
Durley	01/18/2001	
Fallbrook, CA		
Chadd, Stephen Mark	01/18/2001	
Corpus Christi, TX		
Chance, Charlene Kim	01/18/2001	
Elgin, MN		
Chin, Ed Ming	01/18/2001	
New York, NY		
Chirhart, Cynthia Ann	01/18/2001	
Temple, TX		
Chizmar, Elizabeth A	01/18/2001	
Springfield, VT		
Ciani, John Thomas	01/18/2001	
Schenectady, NY		
Claren, Paul R	01/18/2001	
Orwell Township, OH		
Clausen, Winifred Elra	01/18/2001	
Santa Rosa, CA		
D'Ascoli, Bartholomew R	01/18/2001	
Montague, NJ		
Davidson, Kenneth Ronald	01/18/2001	
Reseda, CA		
Davis, Marlo M	01/18/2001	
Pittsburgh, PA		
Dhaliwal, Rimplejit Singh	01/18/2001	
Bakersfield, CA		
Dodd, Elizabeth P	01/18/2001	

Subject city, state	Effective date	Subject city, state	Effective date	Subject city, state	Effective date
Kalamazoo, MI		Hialeah, FL		Jacksonville, FL	
Dougherty, Bruce Elliott	01/18/2001	McClellan-Dunson, Ionia	01/18/2001	Petersen, David K	01/18/2001
Middletown, CT		Freeport, IL		Boise, ID	
Dyer, Marcella C	01/18/2001	McCulloch, Rhonda Kay	01/18/2001	Preston, Anne Shannon	01/18/2001
Springfield, VA		Hokes Bluff, AL		Vestavia, AL	
English, Robert Livingston III ...	01/18/2001	McCurry, Tamiko	01/18/2001	Preston, Colleen Marie	01/18/2001
Santa Rosa, CA		Chicago, IL		Elk River, MN	
Farquhar, Nancy Ann	01/18/2001	McDonald, Keith William	01/18/2001	Ransom, Robert Stephens	01/18/2001
Hoover, AL		Secaucus, NJ		Irvine, CA	
Faybik, Michelle Leigh H	01/18/2001	McElroy, Sheronne Renee	01/18/2001	Ream, Monica Irwin	01/18/2001
New Kensington, PA		Chicago, IL		Elfred, PA	
Ford, Bonnie Lee	01/18/2001	Meads, Linda	01/18/2001	Roberson, Traci S	01/18/2001
Bovey, MN		Los Altos, CA		Detroit, MI	
Foster, Lynn Kay	01/18/2001	Medina, Benjamin	01/18/2001	Roberts, Rammie	01/18/2001
Martinez, CA		Chicago, IL		Oklahoma City, OK	
Freeland, Frances J	01/18/2001	Melchor, Eduardo L	01/18/2001	Roberts, John	01/18/2001
Meriden, CT		Barrington, IL		Los Angeles, CA	
Freeman, Janet Sue	01/18/2001	Melton, Walter	01/18/2001	Ruffolo, Pasquale R	01/18/2001
Edgewater, FL		Sprott, AL		Hamden, CT	
Gamber, Elizabeth A	01/18/2001	Mendelsohn, Deborah Miriam ..	01/18/2001	Salter, Clifford James	01/18/2001
Lake Havasu City, AZ		Waverly, PA		St. Petersburg, FL	
Gordon, Teri L	01/18/2001	Mendo-Cruz, Patricia	01/18/2001	Santa-Teresa, Bienvendio	01/18/2001
Wyandotte, MI		Whittier, CA		Irvine, KY	
Grant, Richard Leslie	01/18/2001	Michalowski, Andrew Peter	01/18/2001	Savedra, Phyllis	01/18/2001
Wasilla, AK		Berwyn, IL		Long Beach, CA	
Gunkel, George Frederick	01/18/2001	Midzenski, Malinda A	01/18/2001	Self, Jo Anna	01/18/2001
San Francisco, CA		Baltimore, MD		Bessemer, AL	
Hancock, Julie Delynn	01/18/2001	Millburn, Joanne M	01/18/2001	Sen, Devashish	01/18/2001
Stephenville, TX		Philadelphia, PA		Newton, MA	
Harper, Patricia E	01/18/2001	Miller, Nival Rizk	01/18/2001	Shelton, Margaret Ann	01/18/2001
Newark, TX		Tuscaloosa, AL		Capitola, CA	
Hickman, Clara Charlene	01/18/2001	Mitchell, Brian	01/18/2001	Smith, Randolph Lee	01/18/2001
Piedmont, AL		Chicago, IL		Pomona, CA	
Hill, Patricia S	01/18/2001	Montese, Romeo	01/18/2001	Street, Brenda Hardin	01/18/2001
West Monroe, NY		Coral Springs, FL		Hot Springs, AR	
Hoagland, William Russell	01/18/2001	Moody, Beth Ann	01/18/2001	Swanson, Andrew Norman	01/18/2001
Boling Green, FL		Conroe, TX		Napa, CA	01/18/2001
Hudson, Leigh Ann	01/18/2001	Moore, Samantha Claire	01/18/2001	Wagner, Marie W	01/18/2001
New Castle, DE		Rainbow City, AL		Dallas, TX	
Irvine, Gerald Lenard	01/18/2001	Moy, Jenny	01/18/2001	White, Clinton Ray	01/18/2001
Montgomery, AL		Chicago, IL		Clute, TX	
Jones, Mary Dee	01/18/2001	Mullins, Phyllis	01/18/2001	Winmill, Diana Renee	01/18/2001
Greensburg, LA		Gulfport, MS		Blackfoot, ID	
Kelley, Ira John	01/18/2001	Murphy, Gregory Allen	01/18/2001	Yarbrough, Ardry Lance	01/18/2001
Conneautville, PA		Bolingbrook, IL		Atoka, OK	
Kooker, Robert Allen	01/18/2001	Murphy, Madison Dee	01/18/2001	Young, Patricia Anketell	01/18/2001
Loomis, CA		Idaho Falls, ID		Sherman Oaks, CA	
Lake, Alan Shanley	01/18/2001	Nelson, Mae Ellen	01/18/2001		
Anaheim, CA		Lubbock, TX			
Lambe, Michael J	01/18/2001	Nelson, Janice Louise	01/18/2001	Federal State Exclusion/Suspension	
New Britain, CT		Chicago, IL		Angulo, Ismael	01/18/2001
Lambert, Sheryl Yanick	01/18/2001	Newkirk, Garry Lee	01/18/2001	Chicago, IL	
Chicago, IL		Pacific, CA		Bungcayao, Isabelo Calacal	01/18/2001
Lansford, Cynthia Leah	01/18/2001	Nicolai, Anne	01/18/2001	Oak Brook, IL	
Birmingham, AL		Davison, MI		Jairath, Ravindra Kumar	01/18/2001
Large, James Matthew	01/18/2001	Nkatu, Nsiele M	01/18/2001	Chicago, IL	
Finleyville, PA		Los Angeles, CA		Kilani, Reda	01/18/2001
Licerio, Lulex Guerrero	01/18/2001	Norris, Stephanie Ann	01/18/2001	Naperville, IL	
Orangeburg, NY		Cambridge, IL		Quach, Minh	01/18/2001
Lopp, Roddie M	01/18/2001	O'Brien, Patricia A	01/18/2001	Chicago, IL	
Louisburg, NC		Washington, PA		Tabe, Henry Brendan Ebot	01/18/2001
Lucker, Edward	01/18/2001	O'Connor, Michael W	01/18/2001	Oak Park, IL	
Pleasant Valley, NY		Chicago, IL		Trung Tin Gift & Pharmacy	01/18/2001
Lynch, Francis R	01/18/2001	O'Dell, Bruce La Von	01/18/2001	Chicago, IL	
N. Haven, CT		Mesa, AZ			
Marsh, John R	01/18/2001	O'Shea, Frank M	01/18/2001	Fraud/Kickbacks	
San Andreas, CA		Ellicott City, MD		Eaglin, Gerardette	10/17/2000
Martinez, Maria Anita	01/18/2001	Palmer, Donna Kay Mitchell	01/18/2001	Marietta, GA	
Fresno, CA		Picayune, MS			
Mather, William H	01/18/2001	Pascucci, Nicholas James	01/18/2001	Entities Owned/Controlled by Convicted	
Douglasville, GA		Woodhaven, NY		Agma, Drug, Inc	01/18/2001
Matthews, Pamela	01/18/2001	Peirce, Mary Elizabeth Chandle	01/18/2001		
Chicago, IL		Daphne, AL			
McAllister, Charles H	01/18/2001	Perkerson, Ralph Benton Jr	01/18/2001		

Subject city, state	Effective date
East Meadow, NY	
Appalachian Medical Supply	01/18/2001
Asheville, NC	
Burnside Pharmacy	01/18/2001
Burnside, KY	
Genesee Hearing Svcs, LLP	01/18/2001
Buffalo, NY	
Home Infusion Mgmt. Svc	01/18/2001
Congers, NY	
Medical Repair Center, Inc	01/18/2001
La Mesa, CA	
Willowbrook Medical Treatment	
Wayne, NJ	01/18/2001

Default on Heal Loan

Ardalan, Mehrmaz	01/18/2001
West Hills, CA	
Booher-Fulton, Janette L	01/18/2001
S. San Francisco, CA	
Bunce, Christine T	01/18/2001
Oakland, CA	
Caldwell, Larry Von	01/18/2001
Gretna, LA	
Dominics, Beth Anne	01/18/2001
Los Angeles, CA	
Dowell, Alfonso N Jr	01/18/2001
Oklahoma City, OK	
Farrell, Robert J	12/13/2000
San Diego, CA	
Funcia, Ana T	01/18/2001
Miami, FL	
Gieschen, John M	01/18/2001
Santa Cruz, CA	
Gillies, Douglas K	01/18/2001
Roswell, NM	
Grant, Terry E	01/18/2001
Freeport, NY	
Imani, Ibn A	11/21/2000
Tallahassee, Fl	
Jakubczak, Arthur F	01/18/2001
Perth Amboy, NJ	
Jefferson, Michael Kenneth	01/18/2001
Woodland Hills, CA	
Jimerson, Ruthie M	11/27/2000
Youngstown, OH	
Jubert, Angela K	11/27/2000
Anderson, IN	
McGinn, Thomas D	01/18/2001
Milford, UT	
Mendes, Antonio C	01/18/2001
Canton, MA	
Negron, Candido	01/18/2001
Philadelphia, PA	
Omohundro, William A	01/18/2001
S. Pittsburg, Tn	
Pinnacle, Jeanette L	11/28/2000
Ridley Park, PA	
Polee, George	11/28/2000
Nashville, TN	
Rey, Jorge E	01/18/2001
Chino, CA	
Rocha, Mark W	11/29/2000
Riverside, CA	
Smith-Chapin, June D	01/18/2001
Auburn Hills, MI	
Soto, Mario J	01/18/2001
Fresno, CA	
Summers, Shawn J	01/18/2001
Los Angeles, CA	
Taylor, Berlan L	01/18/2001
Alicia, AR	
Yagow, John T	01/18/2001

Subject city, state	Effective date
Watertown, WI	
Dated: January 8, 2001.	
Calvin Anderson, Jr.,	
<i>Director, Health Care Administrative</i>	
<i>Sanctions, Office of Inspector General.</i>	
[FR Doc. 01-1622 Filed 1-19-01; 8:45 am]	
BILLING CODE 4150-04-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.

ADDRESS: 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.

Ribonuclease H1—A Protein Expressed in Escherichia coli From a Cloned Human RNase H1 cDNA

Robert J. Crouch, Susana Cerritelli, Sergey Gaidamakov, and Hirofumi Yamada (NICHD)

DHHS Reference No. E-047-01/0

Licensing Contact: Sally Hu; 301/496-7056 ext. 265; e-mail: hus@od.nih.gov.

Available for licensing through a Materials License Agreement (no patent or patent application) are samples of purified human RNase H1 protein, expressed in *E. coli* from human RNase H1 cDNA. This protein is important for cellular functions such as DNA synthesis and repair. This protein also is related by sequence, structure and enzymatic mechanism to the RNase H of

retroviruses such as HIV. Since the cellular and viral proteins have similar properties, it would be useful to screen for potential drugs that have little or only modest effects on the cellular protein while inhibiting the HIV enzyme. Thus, the availability of both the retroviral and human RNases H1 makes drug screening and anti-sense therapy possible to perform.

Methods for the Identification of Textual and Physical Structured Query Fragments for the Analysis of Textual and Biopolymer Information

Robert J. Boissy (NIEHS)

DHHS Reference No. E-270-99/0 filed 15 Nov 2000

Licensing Contact: Dale Berkley; 301/496-7735 ext. 223; e-mail: berkleyd@od.nih.gov.

The invention comprises algorithms implemented in software for "structured combinatorial queries" that may be used for analyses of relatedness and information content in any textual information, and especially in biological sequences. The invention also includes experimental methods for isolating and comparing DNA fragments ("Structured Query Fragments" or SQFs) obtained using site-specific cleavage effectors acting on substrate DNA that is asymmetrically end-immobilized on a solid support. A small, structured array of such cleavage effectors may be used in a combinatorial fashion to generate progressively expanding sets of asymmetrically end-immobilized, double-stranded DNA. This ultimately yields extremely large numbers of SQFs, which typically have lengths in the range of 100-700 nucleotides (and are termed ranged SQFs). Thus, each SQF is defined by a method (a specific combinatorial pathway required to isolate it) and one or more properties (typically its length). These attributes yield sufficient information to identify and assign ranged SQFs to specific locations in known sequences automatically using the software disclosed in the invention. The invention shows how millions of individual ranged SQFs distributed throughout the human genome may be unambiguously identified at nucleotide resolution using a fragment analysis instrument. Accordingly, the invention provides a computational method that is flexible and efficient at comparing large amounts of textual information (typically biological sequence data), and a unique laboratory strategy that emulates the computational method and provides a highly scalable approach for physical analyses of polynucleotides. This laboratory strategy allows for the analysis and isolation of large numbers