May 1st, 2007

This is an abbreviated version of Genomics and Health Weekly Update, published by the National Office of Public Health Genomics at CDC. View using the HTML option in Groupwise. The full the unabridged version, is available online at:

Spotlight: April is National Autism Awareness Month
Autism is one of a group of developmental disorders known as autism spectrum disorders (ASDs). Scientists think that both genes and the environment play a role in ASDs. Family studies have been helpful in understanding how genes contribute to autism. Read more.

Cancer

“New hereditary breast cancer gene discovered” (Apr 25) EurekAlert! reports, “A new hereditary breast cancer gene has been discovered by scientists at the Lundberg Laboratory for Cancer Research and the Plastic Surgery Clinic at the Sahlgrenska Academy in Sweden.”

“Genetic susceptibility linked to rare brain tumor” (Apr 24) Yahoo News reports, “A person's genetics may increase their risk of developing a radiation-associated brain tumor called meningioma, according to a new study of 525 families.”

“Key gene identified that may be a marker of breast cancer metastasis” (Apr 24) Medical News Today reports, “Researchers at Fox Chase Cancer Center have identified an important gene involved in the spread of breast cancer that has developed resistance to long-term estrogen deprivation.”

“China experts identify cancer-preventing gene type” (Apr 23) Yahoo News reports, “Scientists in China have identified a gene variant which appears to protect Chinese people from various types of cancer.”

Population genetic tools: application to cancer
Gabriel S
Semin Oncol 2007 Apr;34(2 Suppl 1):S21-4

Inherited cancer susceptibility syndromes in paediatric practice
Field M, et al.
J Paediatr Child Health 2007 Apr;43(4):219-29

Cancer genetic risk assessment for individuals at risk of familial breast cancer
Sivell S, et al.
Cochrane Database Syst Rev 2007(2):CD003721
Family history of gallstones and the risk of biliary tract cancer and gallstones: A population-based study in Shanghai, China
Hsing AW, et al.
Int J Cancer 2007 Apr

Cardiovascular, Diabetes, Hypertension, Stroke, and Related Conditions

“No sign that ethnic groups' genes cause diabetes, international research team says”
(Apr 20) Medical News Today reports, “A study by U.S. and Australian researchers is helping dispel the 40-year-old "thrifty genotype theory," which purports that certain minority groups are genetically prone to diabetes.”

Prediction of Coronary Heart Disease Risk using a Genetic Risk Score: The Atherosclerosis Risk in Communities Study
Morrison AC, et al.
Am J Epidemiol 2007 Apr

Ethical, Legal, and Social Issues

“House OKs ban on genetic discrimination”
(Apr 25) The Washington Post reports, “Genetic information no longer could be used to deny someone health insurance or job opportunities under legislation passed by the House on Wednesday.”

“Experts discuss genetic diseases prevention”
(Apr 24) Gulf Times reports, “As many as 7,000 types of genetic birth defects have been identified to date, the second annual International Forum for Children With Special Needs, was told yesterday.”

“Obtaining valid consent for doing large genetic studies in developing countries”
(Apr 23) EurekAlert! reports, “Genetic research has the potential to improve global health by discovering what makes people susceptible or resistant to certain diseases, and what causes the diseases themselves, thereby guiding prevention efforts.”

Genomic Tools

“National DNA Day: Tour applied biosystems' DNA Applications Laboratory”
(Apr 24) Yahoo reports, “The American Society of Human Genetics (ASHG) and Applied Biosystems, an Applera Corporation business, are recognizing the fifth annual National DNA Day with a special event designed to demonstrate the value of genetics and genomics.”

“Repressing genes”
(Apr 23) Science Daily reports, “Researchers report that most genes are repressed through a mechanism by which methyl molecules are attached to DNA.”
“Study to build genetic, genealogical & medical database of Parsis”
(Apr 20) Express Healthcare reports, “Avesthagen, a leading biotechnology company recently launched of the Avestagenome, a unique project to build a complete genetic, genealogical and medical database of the Parsis, who now number about 69,000 in India.

Primer on the human genome
Tsai KY & Tsao H

Hearing

Additional clinical manifestations in children with sensorineural hearing loss and biallelic GJB2 mutations: Who should be offered GJB2 testing?
Kenna MA, et al.
Am J Med Genet A 2007 Apr

Immune System (including Autoimmunity)

14th International HLA and Immunogenetics Workshop: Report on the HLA component of type 1 diabetes
Steenkiste A, et al.
Tissue Antigens 2007 Apr;69(s1):214-25

Infectious Disease

“New online database to help fight infectious diseases”
(Apr 20) eGovmonitor.com reports, “An international network of researchers announced on April 16, 2007 the release of a new web-based resource designed to facilitate the development of medicines to fight infectious diseases afflicting the developing world.”

Mental Health (including Addiction)

Gene-environment correlations: a review of the evidence and implications for prevention of mental illness
Jaffee SR & Price TS
Mol Psychiatry 2007 May;12(5):432-42

Nervous System (including Movement Disorders)

“Cortex area thinner in youth with Alzheimer's-related gene”
(Apr 24) Science Daily reports, “A part of the brain first affected by Alzheimer's disease is thinner in youth with a risk gene for the disorder, a brain imaging study by researchers at the National Institute of Mental Health (NIMH), one of the National Institutes of Health (NIH), has found.”
“Faulty DNA repair linked To Huntington's Disease onset”
(Apr 23) Science Daily reports, “Huntington's disease, an inherited neurodegenerative disorder that affects roughly 30,000 Americans, is incurable and fatal.”

“New genes identified in childhood fever-related seizures”
(Apr 23) EurekAlert! reports, “Researchers have localized two new genes that are associated with fever-related seizures that occur in infancy and childhood, according to a study published in the April 24, 2007, issue of Neurology®, the scientific journal of the American Academy of Neurology.”

“New test may allow population screening for Fragile X syndrome”
(Apr 23) Medical News Today reports, “A new automated test could enable population screening to identify carriers of the gene mutations causing fragile X syndrome (FXS), the most common inherited form of mental retardation, reports a study in the April issue of Genetics in Medicine, published by the American College of Medical Genetics and Lippincott Williams & Wilkins, a part of Wolters Kluwer Health.”

LRRK2 Low-penetrance Mutations (Gly2019Ser) and Risk Alleles (Gly2385Arg)-Linking Familial and Sporadic Parkinson's Disease
Bonifati V
Neurochem Res 2007 Apr

Lack of mutations in spinocerebellar ataxia type 2 and 3 genes in a Taiwanese (ethnic Chinese) cohort of familial and early-onset parkinsonism
Lin CH, et al.
Am J Med Genet B Neuropsychiatr Genet 2007 Apr

Cross-sectional study discloses a positive family history for Parkinson's disease and male gender as epidemiological risk factors for substantia nigra hyperechogenicity
Schweitzer KJ, et al.
J Neural Transm 2007 Apr

Pharmacogenomics

“Gene analysis might explain ethnic differences in sensitivity to chemotherapy in lung cancer”
(Apr 24) Science Daily reports, “Analysis of three genetic mechanisms that cause non-small cell lung cancer might explain why East Asians respond better than other ethnic groups to a certain type of chemotherapy, a team led by UT Southwestern Medical Center researchers has found.”

“Promising new approach to treating genetic disorders reveals”
(Apr 24) eMaxHealth reports, “New preclinical data published online in the current edition of the journal Nature show that PTC124, an investigational new drug designed to
bypass nonsense mutations, was efficacious in a preclinical model of Duchenne muscular dystrophy (DMD).”

“Intravenous nanoparticle gene therapy shows activity in stage IV lung cancer” (Apr 22) Medical News Today reports, “A cancer-suppressing gene has been successfully delivered into the tumors of stage 4 lung cancer patients via an intravenously administered lipid nanoparticle in a phase I clinical trial at The University of Texas M. D. Anderson Cancer Center.”

“More effective therapies for individual cancers - personalized medicine” (Apr 19) News-Medical.Net reports, “Genetic and epigenetic variations ensure that no two people are exactly alike, and the same holds true for any two cancers.”

“Genetic tests help prevent unnecessary chemo” (Apr 23) NorthJersey.com reports, “Donna Kapshull beat breast cancer -- and she did it without chemotherapy.”

**Prenatal and Perinatal Health**

“Women with sickle cell need special prenatal care” (Apr 19) Reuters Health reports, “African-American women with the sickle cell trait are less likely to delivery prematurely and more likely to have multiple births than their counterparts without the sickle cell trait, according to a report in the medical journal Obstetrics & Gynecology.”

**Reproductive System**

“Hot flashes: Studies explore the role of genes, obesity and alcohol” (Apr 24) News Bureau reports, “Many women in the menopausal transition experience hot flashes: unpredictable, sometimes disruptive, periods of intense heat in the upper torso, neck and face.”

**Let’s Go Surfing**

The Minnesota Gene Pool Weblog New Posts on: Chocolate and Blood Pressure, Minnesotans with disabilities, TCF7L2 diabetes gene