

**Monday, Oct. 3, 2011**

**Gene Variant Affects Response to Asthma Drugs**

A genetic variant may explain why some people with asthma don't respond well to inhaled corticosteroids, the most widely prescribed medicine for long-term asthma control. In the future, knowledge of such variants could help doctors develop more effective, personalized asthma treatments. To learn more, a team of researchers led by Dr. Kelan G. Tantisira of Brigham and Women's Hospital carried out a genome-wide association study of children with asthma and their parents. The scientists searched for genetic variants linked to a poor response to inhaled corticosteroids. The study was funded by NIH's National Heart, Lung and Blood Institute (NHLBI), National Human Genome Research Institute (NHGRI) and the NIH Pharmacogenomics Research Network, among others.

<http://www.nih.gov/researchmatters/october2011/10032011asthma.htm>

**Monday, Oct. 3, 2011**

**Priming with DNA Vaccine Makes Avian Flu Vaccine Work Better.**

NIH study also provides proof of concept for universal influenza vaccine. The immune response to an H5N1 avian influenza vaccine was greatly enhanced in healthy adults if they were first primed with a DNA vaccine expressing a gene for a key H5N1 protein, researchers say. Their report describes results from two clinical studies conducted by researchers from the National Institute of Allergy and Infectious Diseases (NIAID), part of the National Institutes of Health.

<http://www.niaid.nih.gov/news/newsreleases/2011/Pages/H5primeBoost.aspx>

**September 26, 2011**

**Designing New Diabetes Drugs**

Researchers have designed experimental drugs that are as effective in mice as current medications, but cause fewer side effects. The finding may lead to new drugs to combat diabetes. The scientists set out to design an improved generation of anti-diabetic drugs by specifically preventing the phosphorylation of PPAR $\gamma$ , which is carried out by a protein called Cdk5. The research was supported by NIH's National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), National Institute of Mental Health (NIMH) and National Institute of General Medical Sciences (NIGMS).

<http://www.nih.gov/researchmatters/september2011/09262011diabetes.htm>

**September 12, 2011**

**New Uses for Existing Medicines**

In a novel approach, researchers used computers and genomic data to find new applications for existing FDA-approved drugs. The research team created a computer program to compare the expression profiles of about 164 drugs and 100 diseases. The program searched through the thousands of possible drug-disease combinations to find drugs and diseases whose gene expression patterns essentially cancelled each other out. The work was supported by NIH's National Institute of General Medical Sciences (NIGMS), National Cancer Institute (NCI) and National Library of Medicine (NLM). The results appeared in 2 articles on August 17, 2011, in *Science Translational Medicine*.

<http://www.nih.gov/researchmatters/september2011/09122011medicines.htm>

**Thursday, August 11, 2011**

**Scientists Explain Unique Activity of TB Drug Pyrazinamide**

Pyrazinamide has been used in combination with other drugs as a first-line treatment for people with tuberculosis (TB) since the 1950s, but exactly how the drug works has not been well understood. Now, researchers have discovered a key reason why the drug effectively shortens the required duration of TB therapy. The finding potentially paves the way for the development of new drugs that can help eliminate TB in an infected individual even more rapidly. The study was supported by the National Institute of Allergy and Infectious Diseases (NIAID), part of the National Institutes of Health, and published online on August 11 in *Science Express*.

<http://www.niaid.nih.gov/news/newsreleases/2011/Pages/TBdrugPyrazinamide.aspx>