SEARCH

Wednesday, July 3, 2013

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The Elusive Protein, Found

August 24, 2010

Three groups of researchers have found the BRCA2 protein that is believed to contribute to inherited cases of breast and ovarian cancer, reports *New Scientist*'s Jessica Hamzelou. It's been known that mutations in the BRCA2 gene can cause DNA damage leading to cancer, but until now, the protein has been difficult to isolate. A team at UC Davis led by Stephen Kowalczykowski isolated the protein by inserting the gene into a human virus and infecting human embryonic kidney cells, which then expressed the protein, Hamzelou says. They then found that about six RAD-51 proteins (which also repair DNA damage) bind to BRCA2. Another UC Davis team led by Wolf-Dietrich Heyer expressed the BRCA2 gene in yeast, and came to same conclusions about its interactions with RAD-51, Hamzelou reports. In addition, a team led by Stephen West at Cancer Research UK found that BRCA2 takes RAD-51 where it needs to go to repair DNA damage, she adds, which could explain why BRCA2 mutations lead to more DNA damage.

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GenomeWebinars

Advances in Single-Cell Genomics: Live Cell RNA and Circulating miRNA Detection
Sponsor: **EMD Millipore**
Data presented in this webinar illustrates the value of live cell analysis at the single-cell level to identify differences in expression levels across populations of cells. The cells remain intact for downstream analysis. Our experts also discuss the use of SmartFlare RNA detection probes for the direct quantification of circulating miRNAs with rapid processing of blood plasma/serum, which is done without the use of enzymes. Using circulating miRNAs with established roles in cancer and quality control, we can accurately detect these miRNAs in plasma using a microplate fluorometer within an hour after plasma preparation. On-demand recording is available **here.**

Optimization of NGS Library Preparation: Low Inputs and Fast, Streamlined Workflows
Sponsor: **New England Biolabs**
Library preparation methods continue to be challenged

by the requirement for faster and more efficient protocols, using lower input amounts. In this online seminar, recorded Feb. 7, 2013, experts discuss new approaches to tackle these challenges, particularly for bacterial and exome sequencing. Available **here.**

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Science

Researchers at the University of Copenhagen, BGI-Shenzhen, and elsewhere have sequenced genomic DNA from the fossilized remains of a horse from the Yukon Territory of Canada as far back as 700,000 years ago or more. Together with new genome sequences for a 43,000-year-old Pleistocene horse, a present-day Przewalski's horse, five modern-day domestic horses, and a donkey, the ancient genome prompted researchers to propose divergence within the equid lineage going back four million years or more — about double the time estimated previously.

Business

Clinical lab organizations and a number of companies that develop and make molecular diagnostics have banded together to create a group to press for better government reimbursement while the US Centers for Medicare and Medicaid Services works to restructure its pricing plans. The Coalition to Strengthen the Future of Molecular Diagnostics said it supports the CMS goal of enhanced transparency and a more efficient pricing method, however, it is not happy about the interim pricing or the process by which the gap-fill pricing method was settled upon.

Funding

The UK government plans to keep its science spending flat at £4.6 billion ($7 billion) in the 2015-2016 fiscal year, according to a new spending plan unveiled this week. Critics say this funding level will effectively amount to a cut due to the impact of inflation. Although science spending will remain at the same level it is now, the government will provide £1.1 billion to fund capital spending for science and research infrastructure, an increase of £500 million over 2012-2013. It is unclear how the £4.6 billion in total spending will break out across the scientific research areas.

GenomeWebinars

GenomeWebinar: Advances in Single-Cell Genomics: Live Cell RNA and Circulating miRNA Detection

Sponsor: EMD Millipore

GenomeWeb and EMD Millipore invite you to view an archived webinar discussing new approaches to detect RNA at the single-cell level as well as new probes for the direct quantification of circulating miRNAs. In this free online seminar, recorded April 25, 2013, our expert panel shares protocols for improved RNA and miRNA detection.

On-demand recording available here.

Genome Technology Digital Editions Archive

Tech Guide Archives

Would you have taken the time to sequence a sample supposedly belonging to Sasquatch?

○ Yes. Of course! I want to be the discoverer of Bigfoot.

○ Yes. Just so we could put these claims to rest.

○ Maybe. I might just to see what the samples were actually from.

○ No. Are you kidding? What a waste of time.

○ No. Bigfoot has a right to privacy

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