



CSHL in the News

Science News

One problem, many paths  
August 1, 2011

Huntington Headlines

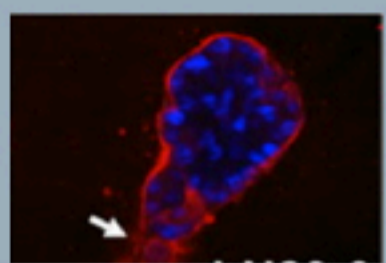
Huntington duo are Partners for the Future  
July 28, 2011

WebMD.com

Gene therapy may help Muscular Dystrophy patients  
July 25, 2011

Study reveals a new therapeutic strategy to counter cancer cell metastasis

Metastasis, the primary cause of mortality in cancer, is the spread of cancer from the tissue or organ where it begins to other parts of the body. When proteins that work like cellular glue stop working, previously immobile cells detach from each other and the cellular scaffold, and acquire features that enable them to become invasive. In a study published in *Genes & Development*, CSHL Professor Nick Tonks and his group have identified the enzyme that normally prevents this from happening and found that the loss of its activity may promote tumor growth and metastasis in aggressive breast cancer.



When PTPN23 is suppressed, breast cancer cells become invasive

The enzyme, called PTPN23, is a protein tyrosine phosphatase that regulates intracellular signals that switch other proteins on or off. One of the proteins that PTPN23 normally keeps in the "off" state is SRC, a well-known cancer promoter. Tonks' team is now investigating whether a candidate drug molecule that mimics PTPN23's suppression of SRC can reverse metastatic effects in mouse models of breast cancer.

Upcoming Events

DNA Learning Center Summer Camps  
[Watch video.](#)  
[Register here!](#)

8/13/11  
[Swim Across America](#)  
Support [Dr. Raffella Sordella](#) in her Sound-to-Cove Long Island Open Water Swim to raise funds for cancer research

8/19/11  
Concert: [Margarita Shevchenko and Lev Polyakin](#)

8/24/11  
[Secret Science Club](#)  
Dr. Robert Martienssen

8/28/11  
Long Island Open and Scholastic [Chess Tournament](#)

9/13/11  
10th Annual Women's Partnership for Science  
[Lecture and Luncheon](#)

[A day with Dr. Watson](#)  
Enter the raffle to win a day at CSHL with Dr. James D. Watson!

Mechanism behind 'oncogene addiction' in leukemia

Cancer cells in some tumor subtypes are known to become dependent on the continued expression of a single cancer-promoting gene, or oncogene, for their survival. In acute myeloid leukemia (AML), the addictive oncogene is actually a fusion between two genes, *MLL* and *AF9*. CSHL's [Dr. Scott Lowe](#) and his team have now discovered that the protein expressed by the fused gene, called *MLL-AF9*, maintains the addiction by hijacking another protein called *Myb* to force blood cells to keep renewing themselves instead of progressing through the normal stages of maturation and eventually dying. Suppressing the activity of *Myb* eradicated AML in mice, suggesting that specifically targeting *Myb* with a drug might be the basis for a potentially highly effective targeted therapy. The study appears in the Aug 1 issue of *Genes & Development*.

A Google-like 'knowledgebase' for research

CSHL researchers [Dr. Doreen Ware](#) and [Dr. Michael Schatz](#) are taking a prominent role in a multi-institutional effort funded by the US Department of Energy to create a cyber-"knowledgebase" (called Kbase, for short). By leveraging the power of cloud computing, Kbase will unite different "silos" of information and act as a Google-like portal for scientists studying plants and microbes, thereby enhancing their ability to access, analyze and share data from multiple sources. This new system is expected to significantly advance research into the production of biofuels, sequestering carbon in the ecosystem, and cleaning up environmental pollution.



Lecture on brain architecture now online



On June 6, more than 400 very hip New Yorkers gathered at the [Secret Science Club](#) in Brooklyn to hear a stimulating talk about what many consider to be the last frontier - the human brain. CSHL neuroscientist and theoretical physicist [Dr. Partha Mitra](#) guided the audience on a cerebral tour that started with the history of brain research in the 19<sup>th</sup> century and ended with his own project, now well under way, to map the mouse brain's architecture. You can take the tour by watching the video of the lecture [here](#). And on Aug 24, we invite you come and hear plant scientist [Dr. Rob Martienssen](#)'s lecture at the Secret Science Club!

Also online: A [new post](#) in the Lab Dish blog about the CSHL DNA Learning Center's new iPhone/iTouch app, *Gene Screen*.

Citizen scientists in DNALC project make startling discovery

A science competition called [The Urban Barcode Project](#) that was launched by the CSHL's [DNA Learning Center](#) for high school students in NYC has produced important and unexpected results. The project calls for students to use DNA barcoding--a genetic labeling technique--to explore NYC's natural and urban environments in such settings as food markets, for example. As this [New York Times](#) story explains, students from Manhattan's Trinity School did just that.



Tea lovers beware--the students' barcoding experiments show that significant numbers of herbal teas stocked in markets contain ingredients that don't appear in the manufacturers' list.

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