



TOUCHING BASE

QUESTIONS? THOUGHTS? IDEAS?
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Mutant of the Month

In 1937, C.C. Little, founder of the Jackson Laboratories, published a paper with his colleague A.M. Cloudman describing a “dominant spotting mutation” in the mouse. This launched the academic study of a storied mutant, our April MoM.

The mutant that came to be known as Dominant white spotting (*W*) typically has white spots on the belly and on the head. The pigmentation phenotype can vary substantially, however, with the most severely affected mice having completely white coats. Hematopoiesis and gametogenesis are impaired, leading to infertility and macrocytic anemia. In 1956, Sarvella and Russell described a new mutant called Steel (*S*), for its steely gray coat. Phenotypic similarities to *W* were soon apparent, and in the late 1980s and early 1990s, the genes underlying the *W* and *S* mutations were shown to encode, respectively, a receptor tyrosine kinase (*c-kit*) and its ligand. With the gene products in hand, a wealth of interesting pigment, blood and germ cell biology was uncovered, in addition to a previously undetected role in hippocampal learning. In the clinic, *S* has been used to treat chemotherapy-induced anemia, and imatinib (Gleevec), the first effective treatment for gastrointestinal stromal tumors, specifically inhibits *c-kit* activity. Not bad for a humble spotted mouse. **AP**



Photo courtesy of Peter Besmer

Banned in Mendocino

Strict regulation of genetically modified organisms is usually considered to be a European phenomenon. But on 2 March, the citizens of Mendocino County in northern California voted by a margin of 57% to 43% to ban the cultivation of genetically modified crops—a first in the US. Although the ban is largely symbolic in the grape-growing region about 100 miles north of San Francisco, activists see it as the first of a series of local efforts designed to thwart the power of the biotech industry in agriculture. A number of other counties are considering similar action, including California's Humboldt County. Measure H, as the ballot initiative was designated, was championed by organic food producers, who feared that the potential introduction of genetically engineered crops would threaten the organic farming movement. Opponents of the ban were largely funded by Crop-Life America, a trade association. The campaign to defeat Measure H seems to have centered less on questions of science than on the issue of privacy from inspectors. As Ken Garcia of the *San Francisco Chronicle* pointed out, this is an interesting tactic in light of Mendocino's number one cash crop: *Cannabis sativa*. **AP**

Touching Base written by Myles Axton, Alan Packer, Michael Stebbins and Kyle Vogan

Marine genomics, shotgun-style

In the tradition of such luminaries as Charles Darwin and Jacques Cousteau, Craig Venter and a team of colleagues have hit the high seas. Their pilot study (*Science* advance online publication, 4 March 2004), which involved shotgun sequencing of microbial DNA isolated from a 1,500-liter sample of the Sargasso Sea near Bermuda, has uncovered a notable degree of biodiversity in what is considered to be one of the world's most nutrient-poor oceanic regions. Buoyed by their success, Venter and colleagues now aim to collect similar samples from a variety of sites around the globe, with the long-term goal of identifying new microbes that could aid in the development of alternative, environmentally friendly fuel sources. Although this goal seems a bit ambitious, the benefits for the marine microbial community are immediate and profound. In addition to offering a fascinating glimpse into the enormous microbial diversity present in modern oceans, these studies are certain to deepen our understanding of the evolutionary history of marine microbial ecology. At the same time, the vastness of the world's oceans suggests that a sea of microbial diversity remains to be discovered. **KV**

Maximum information about a cancer

The non-profit International Genome Consortium (<http://www.intgen.org>) has launched its expO project to profile transcription in thousands of clinically annotated tumors and hundreds of normal tissue samples. The project will produce expression profiles from all its tumor samples by microarray. It will then provide expression profiles in individuals undergoing particular treatments to its collaborating participants, under conditions of strict confidentiality. Expression data will then be publicly available without intellectual property restrictions. The advantages of collecting data under a single standardized protocol have attracted a collaborative group of 19 US medical centers and six sponsoring pharmaceutical firms. The database should rapidly show how large numbers of different tumor types differ from normal tissue and the degree of homogeneity or diversity within specific tumor types. It is envisaged that connections between patterns of gene expression and responsiveness to therapeutic drugs will eventually be established so that diagnostic transcriptional profiling can be used in the oncology clinic to guide treatment. “I measure the success of a tissue bank by how empty it is,” said Project Executive Director Michael Behrens. **MA**

Darwin the musical

So you say you like Broadway show tunes, but find that you just can't relate to the glitz and glamour of the Great White Way. If only they wrote songs about your passions—evolution, science... you know, geeky stuff. Enter stage left anthropologist Richard Milner. His new CD *Charles Darwin: Live in Concert* includes 11 songs that weave their way through the history of the theory of natural selection with 10 interludes that provide a smooth transition between songs. Finally, someone has written a song about the controversy between Darwin and Wallace. The lyrics and music bounce in time as Milner, contributing editor at *Natural History* magazine, tells evolution's tales in the first person, as though Darwin himself were singing. What Milner lacks in cool he more than makes up for with chutzpah. The CD ends with a true revelation—Jimmy Durante is the real ‘guy who found natural selection.’ The CD is available for \$20 (which includes shipping) by writing to Milner directly at rmilner@nyc.rr.com. **MS**

Erratum: Touching Base

Nat. Genet. 36, 327 (2004).

The Executive Director of the IGC expO project (<http://www.intgen.org>) is Michael Berens.

Erratum: A previously unidentified *MECP2* open reading frame defines a new protein isoform relevant to Rett syndrome

G N Mnatzakanian, H Lohi, I Munteanu, S E Alfred, T Yamada, P J M MacLeod, J R Jones, S W Scherer, N C Schanen, M J Friez, J B Vincent & B A Minassian

Nat. Genet. 36, 339–341 (2004).

In the bottom half of **Figure 1b**, the second EST is a mouse *Mecp2B* EST (BU517697; IMAGE 6515311).