

From: F1000 Biology Update <info@f1000biology.com>

To: Jeff Epstein <jeeproject@yahoo.com>

Subject: The link between moral disgust and bad taste, a new development in monoclonal antibodies and much more!

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[Editor's choice: Is there a link between moral disgust and bad taste?](#)

Many of us use the phrase "it leaves a bad taste in your mouth" to express moral disgust, but findings in this new paper suggest that this metaphor may be even more fitting than previously thought! The authors of this thought-provoking paper, evaluated by [Kent Berridge](#) of the [Neuroscience](#) Faculty, find that moral outrage and a bad taste appear to activate the same facial muscles and produce the same expressions.

Dr Berridge [writes](#)

"A morally disgusting outcome may taste bad almost literally, according to this intriguing study. When presented with an unfair deal, people make faint versions of the same facial expressions that they show to an unpleasantly bitter or sour taste: wrinkling the nose and raising the upper lip."

Kent [explains](#)

"The authors suggest that their results support the hypothesis that moral disgust arose in human evolution from basic chemosensory affective precursors."

He also expands on this to [say](#)

"A corollary of that hypothesis is that moral disgust may recruit some of the same affective neural circuitry which generates oral disgust to avoid bitter or other unpalatable food, and which may have evolved originally for avoidance of poisonous foods."

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This paper identifies the different experimental factors of sedimentation velocity analytical ultracentrifugation (SV-AUC) that affect the precision of the estimated amounts of oligomeric aggregates present in protein samples...[MORE](#)

Selected by [Peter Schuck](#) (National Institutes of Health (NIH), United States of America) with Huaying Zhao



[Detection of protein aggregates by sedimentation velocity analytical ultracentrifugation \(SV-AUC\): Sources of variability and their relative importance.](#)

Arthur KK et al. J Pharm Sci 2009 Jan 7

Old guys smell better and get more sex: this provocative paper suggests that in the European corn borer *Ostrinia nubilalis* an age-related male pheromone drives female mating choice, shedding light on the mechanisms of sympatric speciation...[MORE](#)

Selected by [Steven Reppert](#) (University of Massachusetts Medical School, United States of America) with Christine Merlin



[Concerted evolution of male and female display traits in the European corn borer, *Ostrinia nubilalis*.](#)

Lassance and Lofsedt, CBMC Biol 2009 Mar 3 7(1):10

In this exciting paper, the authors demonstrate that the prion PrP^{Sc} is transferred between cells in tunnelling nanotubes (TNTs). This symplastic route to infection is

reminiscent of the invasion of plant tissues by plant viruses and may represent an evolutionarily conserved process...[MORE](#)

Selected by | [Andy Maule](#) (John Innes Centre, Norwich, United Kingdom)



[Prions hijack tunnelling nanotubes for intercellular spread.](#)

Gousset K et al. Nat Cell Biol 2009 Mar 11(3):328-36

This paper is the first report of dystrophin-restored expression in a dog model of Duchenne Muscular Dystrophy (DMD). This study constitutes a proof-of-principle that a morpholino-mediated exon-skipping strategy can be used to remove more than one exon and rescue dystrophin expression to a therapeutic level in a DMD dog...[MORE](#)

Selected by | [David Sassoon](#) (University of Marie and Pierre Curie, France) with Keren Bismuth



[Efficacy of systemic morpholino exon-skipping in duchenne dystrophy dogs.](#)

Yokota T et al. Ann Neurol 2009 Mar 13

This is the first study that shows de novo mutations in a gene that lead to autosomal-dominant mental retardation in patients. It is a breakthrough in the field of mental retardation research as genes hitherto identified as causative are nearly exclusively located on the X-chromosome...[MORE](#)

Selected by | [R Frank Kooy](#) (University of Antwerp, Belgium)



[Mutations in SYNGAP1 in autosomal nonsyndromic mental retardation.](#)

Hamdan FF et al. N Engl J Med 2009 Feb 5 360(6):599-605

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[Broad Impact: A new development in monoclonal antibodies](#)

It has previously been suggested that antibody can only bind to one antigen. A recent study by scientists in San Francisco has used the cancer drug Herceptin to create an antibody that binds to a second antigen.

[Peter Colman](#) of the [Structural Biology](#) Faculty, with W Douglas Fairlie, [explains](#)

"This paper describes a procedure by which a monoclonal antibody directed at human epidermal growth factor receptor 2 (HER2) has been modified so as to acquire high affinity to a second antigen, vascular endothelial growth factor (VEGF), whilst retaining HER2 binding."

[Dominique Eladari](#) of the [Physiology](#) Faculty, with Bharath Wootla, [tells us](#)

"Structural studies presented a large degree of homology between the two antigen-binding sites on the bH1 antibody. The authors, furthermore, elegantly demonstrate the positive pharmacological effect of the bi-specific antibody in an in vivo model, using an affinity-improved variant of bH1 (bH1-44)."

[Chemical Biology](#) Faculty Member [Carlos F Barbas](#) [believes](#)

"Two-in-one antibodies of the type developed by Fuh et al. and other bi- and multifunctional approaches will be key both in treating disease and in creating an affordable class of drugs in the future."

[Kermit Carraway](#) of the [Cell Biology Faculty](#) goes on to [explain](#)

"These antibody variants should provide excellent reagents for therapies of cancers that require HER2 and angiogenesis for tumor progression."

It is obvious that this article has important implications for the development of future treatments for diseases such as cancer.

The [structure of Faculty of 1000 Biology](#) makes it possible to identify papers of broad interest, irrespective of the journal in which they are published. You can see the [full comments](#) of all the evaluating Faculty Members on this Exceptional Broad Impact paper by visiting the [Faculty of 1000 Biology website](#).

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[Hidden Jewel: Fundamental role of nitrogen limitation in the evolution of plant genomes](#)

An article recently highlighted by [Christian Meyer](#) of the [Plant Biology Faculty](#) studied the influence of ecological limitations on the composition of eukaryotic genomes.

Christian [tells us](#)

"This interesting paper suggests that nitrogen limitation may have influenced the DNA and amino-acid compositions of plant genomes and proteomes. This hypothesis relies on the observation that the transcribed plant genomes are nitrogen-poor when compared to the whole genome composition, whereas animal genomes and transcriptomes have almost the same N content."

He [found](#)

"The observation that a domesticated plant like rice has a significantly higher N content in the transcribed genome than Arabidopsis is quite interesting since, according to the authors, this could reflect the fact that rice was not (or less) N-limited through the domestication process, which could have relieved its genome from selection pressure."

[\[See full evaluation\]](#)

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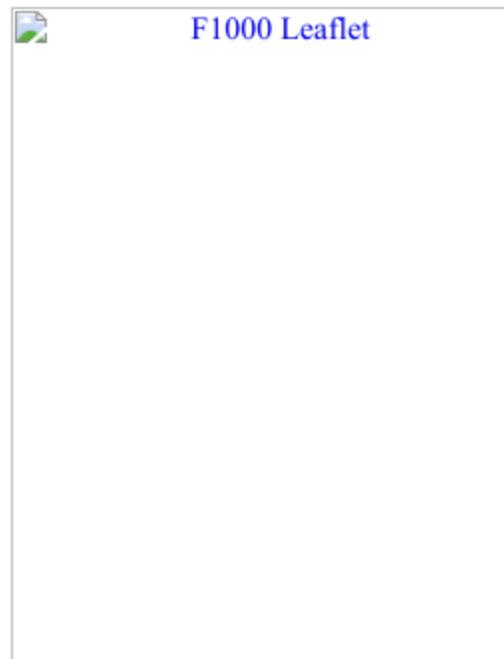
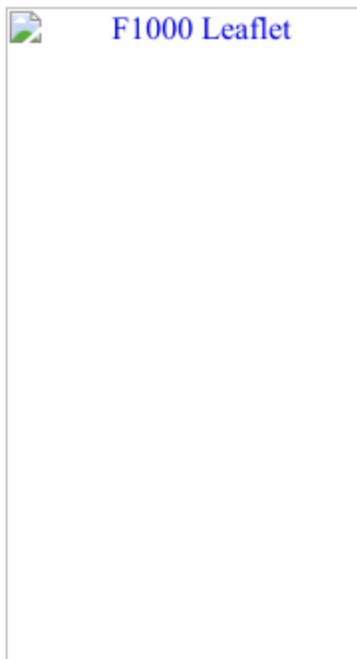
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