



The FASEB Journal

The Official Journal of
The Federation of American Societies
for Experimental Biology

November 2006

Vol. 20 No. 13

UP FRONT

- Editorial: Teach evolution, learn science: we're ahead of Turkey, but behind Iran** 2183-2185
Essay: T. Pederson reflects on the prize of prizes: Alfred Nobel 2186-2189
Book Review: I. B. Dawid reviews Eric H. Davidson's *The Regulatory Genome* 2190-2191

REVIEWS

- M. Brunori and B. Vallone
A globin for the brain 2192-2197
- M. G. Quaranta, B. Mattioli, L. Giordani, and M. Viora
The immunoregulatory effects of HIV-1 Nef on dendritic cells and the pathogenesis of AIDS 2198-2208

HYPOTHESIS

- M. S. Fox and S. Klawansky
Interruption of cell transformation and cancer formation 2209-2213

RESEARCH COMMUNICATIONS

- R. Rexhepaj, F. Grahammer, H. Völkl, C. Remy, C. A. Wagner, D. Sandulache, F. Artunc, G. Henke, S. Nammi, G. Capasso, D. R. Alessi, and F. Lang
Reduced intestinal and renal amino acid transport in PDK1 hypomorphic mice 2214-2222
- V. Vengeliene, F. Leonardi-Essmann, S. Perreau-Lenz, P. Gebicke-Haerter, K. Drescher, G. Gross, and R. Spanagel
The dopamine D3 receptor plays an essential role in alcohol-seeking and relapse 2223-2233
- S. J. Getting, C. W. Lam, A. S. Chen, P. Grieco, and M. Perretti
Melanocortin 3 receptors control crystal-induced inflammation 2234-2241
- T. Kong, K. A. Westerman, M. Faigle, H. K. Eltzhig, and S. P. Colgan
HIF-dependent induction of adenosine A2B receptor in hypoxia 2242-2250
- B. C. Koo, M. S. Kwon, B. R. Choi, J.-H. Kim, S.-K. Cho, S. H. Sohn, E. J. Cho, H. T. Lee, W. Chang, I. Jeon, J.-K. Park, J. B. Park, and T. Kim
Production of germline transgenic chickens expressing enhanced green fluorescent protein using a MoMLV-based retrovirus vector 2251-2260
- Z. Chen, P. A. Deddish, R. D. Minshall, R. P. Becker, E. G. Erdős, and F. Tan
Human ACE and bradykinin B₂ receptors form a complex at the plasma membrane 2261-2270
- G. C. Kane, C.-F. Lam, F. O'Coilain, D. M. Hodgson, S. Reyes, X.-K. Liu, T. Miki, S. Seino, Z. S. Katusic, and A. Terzic
Gene knockout of the KCNJ8-encoded Kir6.1 K_{ATP} channel imparts fatal susceptibility to endotoxemia 2271-2280

(continued)

W. Li, M. Östblom, L.-H. Xu, A. Hellsten, P. Leanderson, B. Liedberg, U. T. Brunk, J. W. Eaton, and X.-M. Yuan	
Cytocidal effects of atheromatous plaque components: the death zone revisited	2281-2290
P. Riou, R. Saffroy, C. Chenailier, B. Franc, C. Gentile, E. Rubinstein, T. Resink, B. Debuire, D. Piatier-Tonneau, and A. Lemoine	
Expression of T-cadherin in tumor cells influences invasive potential of human hepatocellular carcinoma	2291-2301
T. Duka, M. Rusnak, R. E. Drolet, V. Duka, C. Wersinger, J. L. Goudreau, and A. Sidhu	
Alpha-Synuclein induces hyperphosphorylation of <i>Tau</i> in the MPTP model of Parkinsonism	2302-2312
J. Wang, L. Ho, Z. Zhao, I. Seror, N. Humala, D. L. Dickstein, M. Thiyagarajan, S. S. Percival, S. T. Talcott, and G. M. Pasinetti	
Moderate consumption of Cabernet Sauvignon attenuates Aβ neuropathology in a mouse model of Alzheimer's disease	2313-2320
J. Zhan, R. Deng, J. Tang, B. Zhang, Y. Tang, J. K. Wang, F. Li, V. M. Anderson, M. A. McNutt, and J. Gu	
The spleen as a target in severe acute respiratory syndrome	2321-2328
D. González, J. M. Gómez-Hernández, and L. C. Barrio	
Species specificity of mammalian connexin-26 to form open voltage-gated hemichannels	2329-2338
M. Poupot, L. Griffe, P. Marchand, A. Maraval, O. Rolland, L. Martinet, F.-E. L'Faqihi-Olive, C.-O. Turrin, A.-M. Caminade, J.-J. Fournié, J.-P. Majoral, and R. Poupot	
Design of phosphorylated dendritic architectures to promote human monocyte activation	2339-2351
J. Novak, L. J. Parry, J. E. Matthews, L. J. Kerchner, K. Indovina, K. Hanley-Yanez, K. D. Doty, D. O. Debrah, S. G. Shroff, and K. P. Conrad	
Evidence for local relaxin ligand-receptor expression and function in arteries	2352-2362

FJ EXPRESS SUMMARIES

(Full text available online at <http://www.fasebj.org>)

J. Bultinck, P. Sips, L. Vakaet, P. Brouckaert, and A. Cauwels	
Systemic NO production during (septic) shock depends on parenchymal and not on hematopoietic cells: <i>in vivo</i> iNOS expression pattern in (septic) shock	2363-2365
K. Weller, K. Foitzik, R. Paus, W. Syska, and M. Maurer	
Mast cells are required for normal healing of skin wounds in mice	2366-2368
T. W. Weiss, A. L. Samson, B. Niego, P. B. Daniel, and R. L. Medcalf	
Oncostatin M is a neuroprotective cytokine that inhibits excitotoxic injury <i>in vitro</i> and <i>in vivo</i>	2369-2371
M. A. Perotti, H. K. Clarke, B. D. Turner, and H. R. Braig	
<i>Rickettsia</i> as obligate and mycetomic bacteria	2372-2374
J. Lee, B. Kosaras, H. Aleyasin, J. A Han, D. S. Park, R. R. Ratan, N. W. Kowall, R. J. Ferrante, S. W. Lee, and H. Ryu	
Role of cyclooxygenase-2 induction by transcription factor Sp1 and Sp3 in neuronal oxidative and DNA damage response	2375-2377
M. Kioi, S. Seetharam, and R. K. Puri	
N-linked glycosylation of IL-13Rα2 is essential for optimal IL-13 inhibitory activity	2378-2380
W.-C. Chang, C. Nelson, and A. B. Parekh	
Ca²⁺ influx through CRAC channels activates cytosolic phospholipase A₂, leukotriene C₄ secretion, and expression of c-fos through ERK-dependent and -independent pathways in mast cells	2381-2383

(continued)

H. Liu, L. Liu, B. S. Fletcher, and G. A. Visner Sleeping Beauty-based gene therapy with indoleamine 2,3-dioxygenase inhibits lung allograft fibrosis	2384-2386
M. Kapoor, F. Kojima, M. Qian, L. Yang, and L. J. Crofford Shunting of prostanoid biosynthesis in microsomal prostaglandin E synthase-1 null embryo fibroblasts: regulatory effects on inducible nitric oxide synthase expression and nitrite synthesis	2387-2389
H. Okkenhaug, K.-H. Weylandt, D. Carmena, D. J. Wells, C. F. Higgins, and A. Sardini The human CIC-4 protein, a member of the CLC chloride channel/transporter family, is localized to the endoplasmic reticulum by its N-terminus	2390-2392
H.-W. Chen, S.-F. Su, C.-T. Chien, W.-H. Lin, S.-L. Yu, C.-C. Chou, J. J. W. Chen, and P.-C. Yang Titanium dioxide nanoparticles induce emphysema-like lung injury in mice	2393-2395
Á. Álvarez, S. Ibiza, C. Hernández, A. Álvarez-Barrientos, J. V. Esplugues, and S. Calatayud Gastrin induces leukocyte-endothelial cell interactions <i>in vivo</i> and contributes to the inflammation caused by <i>Helicobacter pylori</i>	2396-2398
S. Kim, H. Kim, B. Chang, N. Ahn, S. Hwang, G. Di Paolo, and S. Chang Regulation of transferrin recycling kinetics by PtdIns[4,5]P₂ availability	2399-2401
F. Giacco, G. Perruolo, E. D'Agostino, G. Fratellanza, E. Perna, S. Misso, G. Saldalamacchia, F. Oriente, F. Fiory, C. Miele, S. Formisano, F. Beguinot, and P. Formisano Thrombin-activated platelets induce proliferation of human skin fibroblasts by stimulating autocrine production of insulin-like growth factor-1	2402-2404
J. Palazuelos, T. Aguado, A. Egia, R. Mechoulam, M. Guzmán, and I. Galve-Roperh Non-psychoactive CB₂ cannabinoid agonists stimulate neural progenitor proliferation	2405-2407
F. A. Blocki, S. Radhakrishnan, V. P. Van Keulen, K. L. Heckman, B. Ciric, C. L. Howe, M. Rodriguez, E. Kwon, and L. R. Pease Induction of a gene expression program in dendritic cells with a cross-linking IgM antibody to the co-stimulatory molecule B7-DC	2408-2410
M. Samardzija, A. Wenzel, S. Aufenberg, M. Thiersch, C. Remé, and C. Grimm Differential role of Jak-STAT signaling in retinal degenerations	2411-2413
D. Xu, A. Buehner, J. Xu, T. Lambert, C. Nekl, M. K. Nielsen, and Y. Zhou A polymorphic glucocorticoid receptor in a mouse population may explain inherited altered stress response and increased anxiety-type behaviors	2414-2416
M. van Driel, M. Koedam, C. J. Buurman, M. Hewison, H. Chiba, A. G. Uitterlinden, H. A. P. Pols, and J. P. T. M. van Leeuwen Evidence for auto/paracrine actions of vitamin D in bone: 1α-hydroxylase expression and activity in human bone cells	2417-2419
D.-Y. He and D. Ron Autoregulation of glial cell line-derived neurotrophic factor expression: implications for the long-lasting actions of the anti-addiction drug, Ibogaine	2420-2422

LETTERS TO THE EDITOR

J. Badaut Abnormalities in the pattern of AQP4 immunoreactivity	2423-2424
E. Meshorer, I. E. Biton, Y. Ben-Shaul, S. Ben-Ari, Y. Assaf, H. Soreq, and Y. Cohen Chronic cholinergic imbalances promote brain diffusion and transport abnormalities	2425

(continued)

ERRATA

E. M. Bublil, S. Yeger-Azuz, and J. M. Gershoni

Computational prediction of the cross-reactive neutralizing epitope corresponding to monoclonal antibody b12 specific for HIV-1 gp120

2426

M. E. Falagas, E. A. Zarkadoulia, I. A. Bliziotis, and G. Samonis

Science in Greece: from the age of Hippocrates to the age of the genome

2426

Cover Legend: A Man of the Sandwich Islands in a Mask (c. 1779). Artist: John Webber (c. 1752–1798); engraver: Thomas Cook (c. 1744–1818). At the behest of the Royal Society, London, and underwritten by John Montagu, Fourth Earl of Sandwich, James Cook set out on a series of three monumental voyages between 1768 and 1780 to explore uncharted territories of the Pacific. His crew of 100 men was accompanied by noted naturalists (e.g. Sir Joseph Banks, FRS), astronomers, botanists, physicians, and artists, such as Sydney Parkinson and John Webber. Cook's team collected biological and botanical specimens, kept detailed written records, and produced documentary drawings and maps from Tierra del Fuego to the northernmost regions of the Bering Straits. Cook's expeditions were the most profusely illustrated of any voyage before the advent of photography. Much of this material had never before been reported to the Western world—the novel and often anomalous specimens fueled a passion for taxonomy which became a main theme of 18th century science. In Webber's image, reproduced from Cook's *Account of Voyages to the Southern Hemisphere*, the rower's mask and arboreal "hair" give this portrait a surreal look. The helmet, crafted from gourds with holes for the eyes and nose, has fern crests sprouting from the top and beardlike strips of tapa (bark cloth) hanging from the chin. None of these masks has survived. Webber's drawings are the only record. From an exhibition curated by Ann Weissmann at the MBL/WHOI library; <http://www.mblwhoilibrary.org/exhibits/cook/>

FJ Express

FJ Express is a two-part publication process for *The FASEB Journal* and was initiated with the goal of disseminating accepted papers quickly. As the Internet extension of *FJ*, it provides authors an opportunity to have their research communications appear in full on the *FJ* website within a few weeks after acceptance. Summaries of these articles are published a few months later in the print version of the journal. *FJE* articles are peer reviewed, fully searchable, indexed in *Index Medicus*, MEDLINE, PubMed, among other services, and stand as the version of record for citation.

How to cite an *FJE* article

The official publication date of an *FJ Express* article appears above the title of the online article preceded by the Digital Object Identifier (DOI), a unique number for intellectual property designed specifically for use in the digital environment (e.g., 10.1096/fj.99-1234fje). This is

a sample citation for an *FJ Express* article: Akdis, C.A., Joss, A., Akdis, M., Faith, A., and Blaser, K. (July 24, 2000) A molecular basis for T cell suppression by IL-10: CD28-associated IL-10 receptor inhibits CD28 tyrosine phosphorylation and phosphatidylinositol 3-kinase binding. *FASEB J.* doi: 10.1096/fj.00-1874fje.

The last section of this month's journal is devoted to summaries of full-length research communications that appeared on the *FJ* website in September 2006. These author-prepared summaries highlight the most important features of the full-length manuscript and, unlike conventional abstracts, offer a limited amount of experimental data supplemented by a schematic diagram. Many readers will find it more convenient to scan these synopses before reading the entire article online. Subscribers to the journal can access the complete study by using the URL address printed near the top of the first page of each summary.