

The Journal of Cell Biology

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October 29, 2001

– News –

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- Shape up or ship out
- How big is your organelle?
- Death by unligated integrin
- The growth cone gets a grip

A.W. Dove

Research Roundup

- Old cells gone bad
- Sustained specificity
- Swimming with sperm
- Killing for love
- Arms together, CENs apart

W.A. Wells

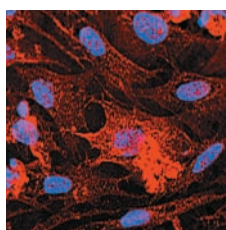
– Reviews –

Comments

A Src-astic response to mounting tension

D.G. Jay

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On the Cover

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Cells isolated from fetal intestine are capable of differentiating into skeletal muscle cells (above), demonstrating that mature stem cells seemingly unrelated to organ function can remain present in organs. See page 381.

– Research Articles –

Reports

Vav1/Rac-dependent actin cytoskeleton reorganization is required for lipid raft clustering in T cells

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M. Villalba, K. Bi, F. Rodriguez, Y. Tanaka, S. Schoenberger, and A. Altman

Articles

Novel vertebrate nucleoporins Nup133 and Nup160 play a role in mRNA export

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S. Vasu, S. Shah, A. Orjalo, M. Park, W.H. Fischer, and D.J. Forbes

Distinct retrieval and retention mechanisms are required for the quality control of endoplasmic reticulum protein folding

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S. Vashist, W. Kim, W.J. Belden, E.D. Spear, C. Barlowe, and D.T.W. Ng

Glycosphingolipids are required for sorting melanosomal proteins in the Golgi complex

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H. Sprong, S. Degroote, T. Claessens, J. van Drunen, V. Oorschot, B.H.C. Westerink, Y. Hirabayashi, J. Klumperman, P. van der Sluijs, and G. van Meer

MyoD-positive myoblasts are present in mature fetal organs lacking skeletal muscle

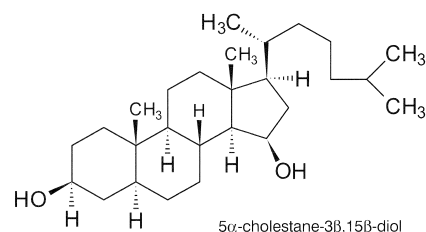
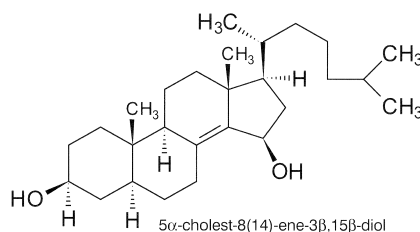
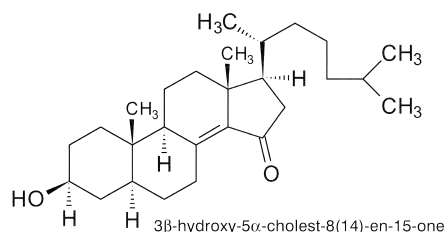
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J. Gerhart, B. Bast, C. Neely, S. Iem, P. Amegbe, R. Niewenhuis, S. Miklasz, P.F. Cheng, and M. George-Weinstein

Articles with related stories in the *In This Issue* section have page numbers in red; articles with *Comments* have page numbers in blue.

15-Oxygenated Sterols - another first from Avanti

Avanti announces six different Sterols, now in stock. These new synthetic compounds also demonstrate the amazing purity the world's top researchers expect from Avanti.



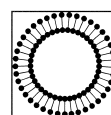
Addition of cholesterol to cultured cells commonly results in inhibition of sterol biosynthesis. This effect was originally attributed to feedback inhibition. Later, Kandutsch and Chen,^{1,2} using highly purified cholesterol, demonstrated that the inhibition was caused not by cholesterol itself but rather by trace levels of oxysterols present as contaminants in most cholesterol preparations. Representative oxysterol contaminants were shown to be potent inhibitors of sterol biosynthesis and to lower 3-hydroxy-3-methylglutarylcoenzyme A (HMG-CoA) reductase activity in cultured mammalian cells.^{1,2,3} This work has engendered a large body of research aimed at defining the role of oxysterols as regulators in a variety of cellular processes.³

1. Kandutsch, A.A. and Chen, H.W. (1973). Inhibition of sterol synthesis in cultured mouse cells by 7α-hydroxycholesterol, 7β-hydroxycholesterol and 7-ketocholesterol. *J. Biol. Chem.* 248: 8408-8417.

2. Kandutsch, A.A. and Chen, H.W. (1976). Biological activities of some oxygenated sterols. *Science* 201: 498-501.

3. Schroepfer, G.J., Jr. (2000). Oxysterols: modulators of cholesterol metabolism and other processes. *Physiol. Rev.* 80: 361-554.

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Circle No. 1 for more information

Position: Tenure Eligible Faculty Position
Organization: Indiana University School of Medicine
Location: Indianapolis, IN

A tenure eligible faculty position (Assistant Scientist) is available in the Division of GI/Hepatology, ranked top 14th nationally in U.S. News & World Report of 2000. Qualified applicants must have a Ph. D. with over 2 years of postdoctoral research experience. Competitive compensation and start-up package commensurate with experience. Candidates with expertise in ion transport, membrane trafficking, electrophysiology, signal transduction, and /or molecular biology are preferred.

Candidates should submit a CV and three letters of recommendation to:

Won Cho, M.D.
Indiana University
Division of GI/Hepatology (111G)
1481 W. 10th St.
Phone: (317) 554-0000 x 4553
E-mail: wkcho@iupui.edu

Articles (cont.)

Differentiation- and stress-dependent nuclear cytoplasmic redistribution of myopodin, a novel actin-bundling protein

A. Weins, K. Schwarz, C. Faul, L. Barisoni, W.A. Linke, and P. Mundel

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Intraflagellar transport balances continuous turnover of outer doublet microtubules: implications for flagellar length control

W.F. Marshall and J.L. Rosenbaum

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Keratin attenuates tumor necrosis factor-induced cytotoxicity through association with TRADD

H. Inada, I. Izawa, M. Nishizawa, E. Fujita, T. Kiyono, T. Takahashi, T. Momoi, and M. Inagaki

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Transmission of growth cone traction force through apCAM-cytoskeletal linkages is regulated by Src family tyrosine kinase activity

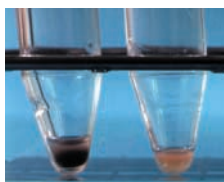
D.M. Suter and P. Forscher

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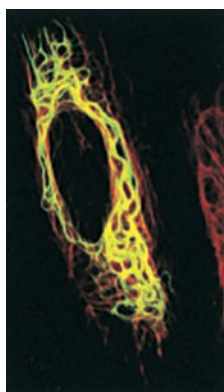
Mutations in the cytoplasmic domain of P0 reveal a role for PKC-mediated phosphorylation in adhesion and myelination

W. Xu, M. Shy, J. Kamholz, L. Elferink, G. Xu, J. Lilien, and J. Balsamo

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Glycosphingolipid-deficient melanoma cells (right) fail to make pigment because the key enzyme in melanin synthesis, tyrosinase, is retained in the Golgi. See page 369.



Keratin 18 (red) sequesters a death protein (green) in epithelial cells. See page 415.

EGF-R signaling through Fyn kinase disrupts the function of integrin $\alpha 6 \beta 4$ at hemidesmosomes: role in epithelial cell migration and carcinoma invasion

A. Mariotti, P.A. Kedeshian, M. Dans, A.M. Curatola, L. Gagnoux-Palacios, and F.G. Giancotti

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Apoptosis of adherent cells by recruitment of caspase-8 to unligated integrins

D.G. Stupack, X.S. Puente, S. Boutsaboualoy, C.M. Storgard, and D.A. Cheresh

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Suppression of p53 function in normal human mammary epithelial cells increases sensitivity to extracellular matrix-induced apoptosis

V.L. Seewaldt, K. Mrózek, R. Sigle, E.C. Dietze, K. Heine, D.M. Hockenbery, K.B. Hobbs, and L.E. Caldwell

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Additions and corrections

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