

# The Journal of PHARMACOLOGY

## And Experimental Therapeutics

A Publication of the American Society for Pharmacology and Experimental Therapeutics

October 2017

Vol. 363, No. 1

### Contents

#### MINIREVIEWS

- Enhancing Studies of Pharmacodynamic Mechanisms via Measurements of Metabolic Flux: Fundamental Concepts and Guiding Principles for Using Stable Isotope Tracers 80  
*Natalie A. Daurio, Sheng-Ping Wang, Ying Chen, Haihong Zhou, David G. McLaren, Thomas P. Roddy, Douglas G. Johns, Denise Milot, Takhar Kasumov, Mark D. Erion, David E. Kelley, and Stephen F. Previs*

#### BEHAVIORAL PHARMACOLOGY

- ▣ Assessing the Value of the Zebrafish Conditioned Place Preference Model for Predicting Human Abuse Potential 66  
*A. J. Brock, S. M. G. Goody, A. N. Mead, A. Sudwants, M.O. Parker, and C.H. Brennan*

#### CARDIOVASCULAR

- Docetaxel Reverses Pulmonary Vascular Remodeling by Decreasing Autophagy and Resolves Right Ventricular Fibrosis 20  
*Yasmine F. Ibrahim, Nataliia V. Shults, Vladyslava Rybka, and Yuichiro J. Suzuki*

#### CELLULAR AND MOLECULAR

- ▣ CXCR4-Specific Nanobodies as Potential Therapeutics for WHIM syndrome 35  
*Raymond H. de Wit, Raimond Heukers, Hendrik J. Brink, Angela Arsova, David Maussang, Pasquale Cutolo, Beatrijs Strubbe, Henry F. Vischer, Françoise Bachelerie, and Martine J. Smit*

#### CHEMOTHERAPY, ANTIBIOTICS, AND GENE THERAPY

- ▣ Novel Pathways of Ponatinib Disposition Catalyzed By CYP1A1 Involving Generation of Potentially Toxic Metabolites 12  
*De Lin, Rumen Kostov, Jeffrey T.-J. Huang, Colin J. Henderson, and C. Roland Wolf*

#### GASTROINTESTINAL, HEPATIC, PULMONARY, AND RENAL

- ▣ New Peptide Inhibitor of Dipeptidyl Peptidase IV, EMDB-1 Extends the Half-Life of GLP-2 and Attenuates Colitis in Mice after Topical Administration 92  
*Maciej Salaga, Anna Mokrowiecka, Marta Zielinska, Ewa Malecka-Panas, Radzislaw Kordek, Elzbieta Kamysz, and Jakub Fichna*

- Characterization of the Potent, Selective Nrf2 Activator, 3-(Pyridin-3-Ylsulfonyl)-5-(Trifluoromethyl)-2H-Chromen-2-One, in Cellular and In Vivo Models of Pulmonary Oxidative Stress 114  
*John G. Yonchuk, Joseph P. Foley, Brian J. Bolognese, Gregory Logan, William E. Wixted, Jen-Pyng Kou, Diana G. Chalupowicz, Heidi G. Feldser, Yolanda Sanchez, Hong Nie, James F. Callahan, Jeffrey K. Kerns, and Patricia L. Podolin*

#### METABOLISM, TRANSPORT, AND PHARMACOGENOMICS

- Mechanistic Multi-Tissue Modeling of Glucocorticoid-Induced Leucine Zipper Regulation: Integrating Circadian Gene Expression with Receptor-Mediated Corticosteroid Pharmacodynamics 45  
*Vivaswath S. Ayyar, Debra C. DuBois, Richard R. Almon, and William J. Jusko*

#### NEUROPHARMACOLOGY

- Ethanol Exposure Regulates *Gabra1* Expression via Histone Deacetylation at the Promoter in Cultured Cortical Neurons 1  
*John Peyton Bohnsack, Vraj K. Patel, and A. Leslie Morrow*

## TOXICOLOGY

- ▣ Urolithin A Mitigates Cisplatin-Induced Nephrotoxicity by Inhibiting Renal Inflammation and Apoptosis in an Experimental Rat Model 58  
*Melissa Guada, Raghu Ganugula, Manicka Vadhanam, and Majeti N.V. Ravi Kumar*

## DRUG DISCOVERY AND TRANSLATIONAL MEDICINE

- NKTR-181: A Novel Mu-Opioid Analgesic with Inherently Low Abuse Potential 104  
*Takahiro Miyazaki, Irene Y. Choi, Werner Rubas, Neel K. Anand, Cherie Ali, Juli Evans, Hema Gursahani, Marlene Hennessy, Grace Kim, Daniel McWeeney, Juergen Pfeiffer, Phi Quach, David Gauvin, Timothy A. Riley, Jennifer A. Riggs, Kathleen Gogas, Jonathan Zalevsky, and Stephen K. Doberstein*

▣ Supplemental material is available at [jpet.aspetjournals.org](http://jpet.aspetjournals.org).

*About the cover:* Urolithin A mitigates cisplatin-induced nephrotoxicity in rats by modulation of the inflammatory cascade and inhibition of the pro-apoptotic pathway. See the article by Guada et al., ([dx.doi.org/10.1124/jpet.117.242420](https://doi.org/10.1124/jpet.117.242420)).