- 44. Kulisz A, Chen N, Chandel NS, Shao Z, Schumacker PT: Mitochondrial ROS initiate phosphorylation of p38 MAP kinase during hypoxia in cardiomyocytes. Am J Physiol Lung Cell Mol Physiol 2002; 282:L1324–9
- 45. Fähling M: Cellular oxygen sensing, signalling and how to survive translational arrest in hypoxia. Acta Physiol (Oxf) 2009; 195:205–30
- 46. Paradis JS, Ly S, Blondel-Tepaz É, Galan JA, Beautrait A, Scott MG, Enslen H, Marullo S, Roux PP, Bouvier M: Receptor sequestration in response to β-arrestin-2 phosphorylation
- by ERK1/2 governs steady-state levels of GPCR cell-surface expression. Proc Natl Acad Sci USA 2015; 112:E5160–8
- 47. Bruchas MR, Yang T, Schreiber S, Defino M, Kwan SC, Li S, Chavkin C: Long-acting kappa opioid antagonists disrupt receptor signaling and produce noncompetitive effects by activating c-Jun N-terminal kinase. J Biol Chem 2007; 282:29803–11
- 48. Chen C, Xi C, Liang X, Ma J, Su D, Abel T, Liu R: The role of κ opioid receptor in brain ischemia. Crit Care Med 2016; 44:e1219-25

ANESTHESIOLOGY REFLECTIONS FROM THE WOOD LIBRARY-MUSEUM

"Agreeable" Coca Cordial: Cocaine with "a Rich Vinous Flavor"



From Detroit, the Michigan pharmaceutical firm of Parke, Davis & Company distributed bottles of "Coca Cordial" (left) as a "Palatable Preparation of Coca Erythroxylon Containing in an agreeable vehicle the active medicinal principle, free from the bitter astringent constituents of the drug." Targeting "persons of delicate nervous organization," the company advertised the utility of its medicinal cordial in 1886 for treating nervous exhaustion, irritability, indigestion, depression, nausea, vomiting, alcoholism, or opium abuse. An agreeably "rich vinous flavor" in each fluid ounce delivered "60 grains of coca leaves" (right, the oval label decorated with coca leaves), with their "sedative, tonic, and stimulant effects." The widespread distribution of cocaine in cola beverages and in popular remedies such as "Coca Cordial" meant that American physicians and dentists had little explaining to do when offering patients cocaine as a local anesthetic. (Copyright © the American Society of Anesthesiologists' Wood Library-Museum of Anesthesiology.)

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