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Kabir Chuttani, MD; Natesa G. Pandian, MD; P. K. Mohanty, MD; Kenneth Rosenfield, MD; Steven L. Schwartz, MD; James E. Udelson, MD; Janet Simonettini, BS; Brenda S. Kusay, BS; and Marjory E. Caldeira, RDMS ................................................................. 1999

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Oxidized Low Density Lipoproteins Inhibit Relaxations of Porcine Coronary Arteries: Role of Scavenger Receptor and Endothelium-Derived Nitric Oxide
Felix C. Tanner, MD; Georg Noll, MD; Chantal M. Boulanger, PhD; and Thomas F. Lüscher, MD ................................................................. 2012

β-Blocker Treatment of Dilated Cardiomyopathy: Beneficial Effect of Carteolol in Mice
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