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**TWO GENCARO™ POSTERS TO BE PRESENTED AT THE AMERICAN COLLEGE  
OF CARDIOLOGY 58<sup>TH</sup> ANNUAL SCIENTIFIC SESSION**

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Phase 3 Data from Genetically Targeted Beta Blocker for the Potential Treatment of Chronic  
Heart Failure to be Presented

*Broomfield, CO, March 19, 2009* – ARCA biopharma, Inc. (Nasdaq: ABIO), a biopharmaceutical company developing genetically-targeted therapies for heart failure and other cardiovascular diseases, announced today that two Gencaro™ (bucindolol hydrochloride) abstracts have been accepted for poster sessions at the American College of Cardiology 58<sup>th</sup> Annual Scientific Session being held March 29-31, 2009 in Orlando, Florida. The abstracts present data from the pivotal Phase 3 BEST trial of Gencaro in patients with advanced chronic heart failure:

- Poster 170: “All-Cause Mortality Endpoint Comparison in Large Beta-Blocker Heart Failure Trials: United States (US) Versus Rest of World (ROW).”  
Dr. Christopher O’Connor, Professor of Medicine in the Division of Cardiology, Chief of the Division of Clinical Pharmacology in the Department of Medicine, and Director of the Duke Heart Failure Program at Duke University Medical Center, is scheduled to present a comparative analysis of US versus ROW primary and other clinical endpoint data from the “MERIT,” “COPERNICUS,” and “BEST” trials in a poster presentation (ACC Poster Contributions 1024 – Myocardial Function/Heart Failure – Clinical Pharmacology) on Sunday, March 29, 2009, from 3:30 p.m. to 4:30 p.m. (Eastern).
- Poster 184: “Beta-Blocker Evaluation of Survival Trial (BEST) Findings Show Benefit of Bucindolol in Moderate to Severe HF Patients, According to Prespecified Statistical Analysis Plan.”  
Dr. Michael Bristow, ARCA’s founder and Chief Science and Medical Officer, is scheduled to present unpublished results of the pivotal Phase 3 BEST trial of Gencaro in patients with advanced chronic heart failure analyzed according to the pre-specified regulatory statistical analysis plan in a poster presentation (ACC Poster Contributions 1024 – Myocardial Function/Heart Failure – Clinical Pharmacology) on Sunday, March 29, 2009, from 3:30 p.m. to 4:30 p.m. (Eastern).

Dr. Bristow will also participate in two panel discussions:

- Panel Discussion: “Pharmacogenomics and the Failing Heart.” ACC Symposium 604 – The Role of Genetic Testing in the Diagnosis and Management of Heart Failure, to be held Sunday, March 29, 2009 from 10:30a.m to 12:00p.m (Eastern).
- Panel Discussion: ACC Meet the Experts 211 – Hemodynamic Monitoring in Implanted Arrhythmia Devices, to be held Monday, March 30, 2009 from 11:00a.m to 12:00p.m. (Eastern).

### **About ARCA biopharma**

ARCA biopharma, Inc. is dedicated to developing and commercializing genetically targeted therapies for heart failure and other cardiovascular disease. The Company's lead product candidate, Gencaro<sup>TM</sup> (bucindolol hydrochloride), is an investigational, pharmacologically unique beta-blocker and mild vasodilator being developed for heart failure and other indications. ARCA has identified common genetic variations that it believes predict individual patient response to Gencaro, giving it the potential to be the first genetically-targeted heart failure treatment. The New Drug Application for approval of Gencaro for the indication of chronic heart failure, including the proposed brand name, is currently under review by the U.S. Food and Drug Administration with a Prescription Drug User Fee Act (PDUFA) date of May 31, 2009. ARCA is collaborating with Laboratory Corporation of America to develop the companion genetic test for Gencaro. The Company's second compound in development, NU172, is a direct thrombin inhibitor which has completed Phase 1b development for use as a potential short-acting anticoagulant during medical or surgical procedures. For more information please visit [www.arcabiopharma.com](http://www.arcabiopharma.com).

### **Safe Harbor Statement**

The anticipated presentations may contain "forward-looking statements" for purposes of the safe harbor provided by the Private Securities Litigation Reform Act of 1995. Such statements are based on management's current expectations and involve risks and uncertainties. Actual results and performance could differ materially from those projected in the forward-looking statements as a result of many factors, including, without limitation, the risk that ARCA does not successfully integrate the business operations of the parties to its recent business combination; the company's inability to further identify, develop and achieve commercial success for products and technologies; the risk that the company's financial resources will be insufficient to meet the company's business objectives; uncertainties relating to drug discovery and the regulatory approval process; clinical development processes; enrollment rates for patients in the companies' clinical trials; changes in relationships with strategic partners and dependence upon strategic partners for the performance of critical activities under collaborative agreements; the impact of competitive products and technological changes. These and other factors are identified and described in more detail in ARCA's filings with the SEC, including without limitation ARCA's quarterly report on Form 10-Q for the quarter ended September 30, 2008 and subsequent filings. We disclaim any intent or obligation to update these forward-looking statements.

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