ARCA BIOPHARMA ANNOUNCES PHASE 2B GENETIC-AF ATRIAL FIBRILLATION BURDEN (AFB) RESULTS SELECTED FOR PRESENTATION AT AMERICAN HEART ASSOCIATION 2018 SCIENTIFIC SESSIONS

- *Approximately 25% risk reduction for recurrence of AF seen in favor of Gencaro over active comparator as measured by AFB*

Westminster, CO, November 5, 2018 – ARCA biopharma, Inc. (Nasdaq: ABIO), a biopharmaceutical company applying a precision medicine approach to developing genetically-targeted therapies for cardiovascular diseases, today announced that data from the Atrial Fibrillation Burden (AFB) substudy of the Phase 2B GENETIC-AF clinical trial have been selected for a poster presentation at the American Heart Association 2018 Scientific Sessions being held November 10-12, 2018 in Chicago. Jonathan Piccini, MD, MHS, FACC, FAHA, FHRS, Associate Professor of Medicine and Director of the Duke Center for Atrial Fibrillation, Duke University Medical Center, will present the data.

Presentation Number and Title: Board Number 4080, "Phase II Trial of Pharmacogenetic Guided Beta-Blocker Therapy with Bucindolol vs. Metoprolol for the Prevention of Atrial Fibrillation/Flutter in Heart Failure: Genetic-Af Af Burden Substudy"

Session: Abstract Poster Session – Treatment of Arrhythmias: Pharmacologic I

Session Date and Time: Sunday, November 11, 2018; 10:30 – 11:45 a.m. CT

About GENETIC-AF

A **Gen**otype-Directed Comparative **E**ffectiveness **T**rial of Bucindolol and Toprol-XL for Prevention of Symptomatic **A**trial **F**ibrillation/Atrial Flutter in Patients with Heart Failure

GENETIC-AF was a Phase 2B multi-center, randomized, double-blind, clinical superiority trial comparing the safety and efficacy of Gencaro™ against an active comparator, the beta-blocker Toprol XL (metoprolol succinate) for the treatment and prevention of recurrent atrial fibrillation or flutter (AF/AFL) in heart failure patients with reduced left ventricular ejection fraction (LVEF). Eligible patients had LVEF < 50%, a history of paroxysmal AF (episodes lasting 7 days or less) or persistent AF (episodes lasting more than 7 days and less than 1 year) in the past 6 months, and the beta-1 389 arginine homozygous genotype that ARCA believes responds most favorably to Gencaro™. A subset of patients in the trial also underwent continuous heart rhythm monitoring to assess AF burden, which was defined as a patient experiencing at least six hours of AF in a day. Topline results of GENETIC-AF were reported on February 26, 2018.

About ARCA biopharma

ARCA biopharma is dedicated to developing genetically-targeted therapies for cardiovascular diseases through a precision medicine approach to drug development. ARCA's lead product candidate, Gencaro™ (bucindolol hydrochloride), is an investigational, pharmacologically unique beta-blocker and mild vasodilator being developed for the potential treatment of heart failure (HF) patients at risk for atrial fibrillation (AF). 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 AF prevention treatment. The Gencaro development program has been granted Fast Track designation by FDA. ARCA is also developing AB171, a thiol-substituted isosorbide mononitrate, as a potential genetically-targeted treatment for peripheral arterial disease (PAD) and for heart failure (HF). For more information, please visit www.arcabio.com.

Safe Harbor Statement

This press release contains "forward-looking statements" for purposes of the safe harbor provided by the Private Securities Litigation Reform Act of 1995. These statements include, but are not limited to, statements regarding the ability of ARCA's financial resources to support its operations through the end of 2018, potential future development plans for Gencaro, the expected features and characteristics of Gencaro or AB171, including the potential for genetic variations to predict individual patient response to Gencaro, Gencaro's potential to treat AF, AB171's potential to treat HF, future treatment options for patients with AF, and the potential for Gencaro to be the first genetically-targeted AF prevention treatment. 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 risks and uncertainties associated with: ARCA's financial resources and whether they will be sufficient to meet its business objectives and operational requirements; ARCA may not be able to raise sufficient capital on acceptable terms, or at all, to continue development of Gencaro or to otherwise continue operations in the future; results of earlier clinical trials may not be confirmed in future trials; the protection and market exclusivity provided by ARCA's intellectual property; risks related to the drug discovery and the regulatory approval process; and, 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 Securities and Exchange Commission, including without limitation ARCA's annual report on Form 10-K for the year ended December 31, 2017, and subsequent filings. ARCA disclaims any intent or obligation to update these forward-looking statements.

Investor & Media Contact:
Derek Cole
720.940.2163
derek.cole@arcabio.com

###