[\*] = Certain confidential information contained in this document, marked by brackets, is filed with the Securities and Exchange Commission pursuant to Rule 24b-2 of the Securities Exchange Act of 1934, as amended

Change Order No.: 1 (R4)

Change Order Submission Date: 03 November 2014

Sponsor: ARCA biopharma Inc. ("Sponsor")

Study Drug/Protocol No.: BUC-CLIN-303

Study Title: GENETIC-AF ("Study")

**EPM#:** 5969

SPS#: 200267

**Sponsor Contact:** 

[\*]

### **DCRI Contacts:**

[\*]

Sponsor and Duke University ("Duke" or "DCRI") entered in a Clinical Research Agreement (the "Agreement"), effective 05 November 2013, to conduct the above-referenced Project. This Change Order No. 1 serves as an amendment to the Agreement and provides details related to scope changes and associated budget adjustments.

**Description of Scope Changes:** The budget for this Change Order 1 is detailed in Attachment 1: "DCRI Detailed Fees and Pass-through Cost Estimate," and an explanation of the change is referenced in the column called "Justification for Revised Scope". Unless otherwise noted, the unit costs remain the same.

## **Study Timeline**

The contracted scope of work included the enrollment of [\*] patients at [\*] North American (NA) sites beginning in [\*] and ending in [\*]. [\*] The table below details these changes to the general timeline milestones.

Study Timeline				
[*]	[*]	[*]		
[*]	[*]	[*]		
[*]	[*]	[*]		
[*]	[*]	[*]		
[*]	[*]	[*]		
[*]	[*]	[*]		
[*]	[*]	[*]		
[*]	[*]	[*]		
[*]	[*]	[*]		

## **Description of Budget Change Summary:**

Туре	Contract Value	Change Order No. 1 Value	Revised Total
DCRI Direct Fees	[*]	[*]	[*]
Pass-through Costs	[*]	[*]	[*]
Total	[*]	[*]	[*]

See attached budget file.

The DCRI will invoice completed units on a monthly basis. All payments remain as agreed upon as in the Agreement unless otherwise stated.

#### **Revised Upfront Payment**

Per the original contract, ARCA paid an upfront payment of [\*] of the total study budget or [\*]. The DCRI applied [\*] of this upfront payment, or [\*], towards initial project invoices and retained the remaining [\*], or [\*], to be applied to the final project invoices.

With this Change Order No. 1, the total contract value has been revised to [\*]. Assuming [\*] of this study budget, the upfront payment would be revised to be [\*]. The variance between the amount retained from the initial upfront payment [\*] and the revised [\*] upfront payment [\*] is [\*]. This amount will either be a credit to outstanding invoices or we will apply to future invoices until the monies are spent down.

Additionally, the DCRI has agreed to apply [\*] of the revised upfront payment, or [\*], towards project invoices and retain the remaining [\*], or [\*], to be applied to the final project invoices.

In summary, [\*] plus [\*] for a total of [\*] will be credited to outstanding invoices and/or applied to future invoices until these monies spent down. The DCRI will retain [\*] to be applied to the final project invoices.

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Approva	l Signature:		
Sponsor:		Duke Unive	rsity:
	/s/Christopher Ozeroff SVP and General Counsel	•	/s/ Michael Sledge CFO / DCRI

Date: November 5, 2014

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Date: November 12, 2014

## Attachment 1

# DCRI Detailed Fees and Pass-through Cost Estimate

[\* 4 pages of text omitted]

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