

**ARIC Manuscript Proposal # 1480B**

**PC Reviewed:** 7/14/09  
**SC Reviewed:** \_\_\_\_\_

**Status:** A  
**Status:** \_\_\_\_\_

**Priority:** 2  
**Priority:** \_\_\_\_\_

**1.a. Full Title:** Serum albumin and venous thromboembolism

**b. Abbreviated Title (Length 26 characters):** Serum albumin and VTE

**2. Writing Group:**

Writing group members: A Folsom, P Lutsey, M Cushman, S Heckbert

I, the first author, confirm that all the coauthors have given their approval for this manuscript proposal. AF [please confirm with your initials electronically or in writing]

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**ARIC author** to be contacted if there are questions about the manuscript and the first author does not respond or cannot be located (this must be an ARIC investigator).

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Address: \_\_\_\_\_

Phone: \_\_\_\_\_ Fax: \_\_\_\_\_  
E-mail: \_\_\_\_\_

**3. Timeline:** finish by Fall 2009

**4. Rationale:**

The approved ARIC MP1480 is associating visit 4 serum cystatin C and urinary albumin/creatinine with venous thromboembolism (VTE). In reviewing the literature for that paper, there seems to be some interest in whether serum albumin may also relate to VTE. Therefore, I request that an offspring be approved for a brief report on baseline serum albumin and VTE. I don't think it logically can be included in MP1480, because if

focuses on a different group (baseline, not visit 4 cohort). The new paper could be MP1480B.

More specifically, it appears that the nephrotic syndrome, which results in albumin wasting, fairly consistently increases VTE risk. Reasons are not clear.

In some papers--mostly cross sectional studies of nephrotic syndrome patients vs controls--serum albumin is inversely associated with VTE prevalence. Virtually none of these studies was in a general population. More show null associations than inverse, but power is often a problem for the null studies.

I'm not sure the association is necessarily kidney disease leading to albuminuria and lowering serum albumin, since albuminuria was infrequent in ARIC. It might be reflecting an inflammatory relation, since we recently saw a positive association of CRP with VTE in ARIC. However, most other inflammatory markers have not been associated with VTE.

#### **5. Main Hypothesis/Study Questions:**

Baseline serum albumin is inversely associated with VTE.

#### **6. Design and analysis (study design, inclusion/exclusion, outcome and other variables of interest with specific reference to the time of their collection, summary of data analysis, and any anticipated methodologic limitations or challenges if present).**

Study group: baseline ARIC

Independent variable: serum albumin

Dependent: incident VTE

Main analysis: time to event, as in previous LITE papers

Covariates: age, race, sex, BMI, diabetes, factor VIII, aPTT, eGFRcreatinine. Will also consider independence from other inflammatory markers measured at baseline, although these have not generally been associated with VTE.

**7.a. Will the data be used for non-CVD analysis in this manuscript?**     Yes  
 No

**b. If Yes, is the author aware that the file ICTDER03 must be used to exclude persons with a value RES\_OTH = "CVD Research" for non-DNA analysis, and for DNA analysis RES\_DNA = "CVD Research" would be used?**      
Yes     No

(This file ICTDER03 has been distributed to ARIC PIs, and contains the responses to consent updates related to stored sample use for research.)

8.a. Will the DNA data be used in this manuscript?  Yes  
 No

8.b. If yes, is the author aware that either DNA data distributed by the Coordinating Center must be used, or the file ICTDER03 must be used to exclude those with value RES\_DNA = "No use/storage DNA"?  
 Yes  No

9. The lead author of this manuscript proposal has reviewed the list of existing ARIC Study manuscript proposals and has found no overlap between this proposal and previously approved manuscript proposals either published or still in active status. ARIC Investigators have access to the publications lists under the Study Members Area of the web site at: <http://www.csc.unc.edu/ARIC/search.php>

Yes  No

10. What are the most related manuscript proposals in ARIC (authors are encouraged to contact lead authors of these proposals for comments on the new proposal or collaboration)?

ARIC 1480 by Folsom et al.

11. a. Is this manuscript proposal associated with any ARIC ancillary studies or use any ancillary study data?  Yes  No

11.b. If yes, is the proposal

A. primarily the result of an ancillary study (list number\*  
\_\_1998.03\_\_)

B. primarily based on ARIC data with ancillary data playing a minor role (usually control variables; list number(s)\* \_\_\_\_\_ )

\*ancillary studies are listed by number at <http://www.csc.unc.edu/aric/forms/>

12. Manuscript preparation is expected to be completed in one to three years. If a manuscript is not submitted for ARIC review at the end of the 3-years from the date of the approval, the manuscript proposal will expire.