

# **Methylome-wide Association Study of Atrial Fibrillation in Framingham Heart Study**

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**Supplemental Table 1.** Association of top CpG sites with AF (stratifying prevalent and incident AF).

| Type         | CpG site   | Chr | Position  | Closest gene   | Distance to gene | Cell-count Adjusted Model <sup>*</sup> |                  |         | Multivariable Adjusted Model <sup>+</sup> |                  |         |
|--------------|------------|-----|-----------|----------------|------------------|--|------------------|---------|---|------------------|---------|
|              |            |     |           |                |                  | Effect size                            | SE <sup>\$</sup> | P value | Effect size                               | SE <sup>\$</sup> | P value |
| Prevalent AF | cg13639451 | 17  | 48911157  | <b>WFIKKN2</b> | 1447             | -0.010                                 | 0.002            | 3.7E-07 | -0.009                                    | 0.002            | 6.0E-06 |
|              | cg07191189 | 2   | 37193690  | <b>STRN</b>    | 75               | 0.010                                  | 0.002            | 1.1E-06 | 0.013                                     | 0.002            | 1.5E-08 |
|              | cg26602477 | 1   | 1476845   | <b>SSU72</b>   | 207              | -8.396                                 | 1.453            | 7.5E-09 | -9.227                                    | 1.449            | 1.9E-10 |
|              | cg15440392 | 20  | 36156634  | <b>BLCAP</b>   | 301              | 4.848                                  | 0.840            | 7.8E-09 | 4.476                                     | 0.882            | 3.9E-07 |
|              | cg04064828 | 10  | 134002751 | <b>DPYSL4</b>  | 0                | -28.007                                | 5.168            | 6.0E-08 | -27.965                                   | 5.155            | 5.8E-08 |
|              | cg27529934 | 1   | 205054684 | <b>RBBP5</b>   | 585              | -8.324                                 | 1.553            | 8.3E-08 | -9.016                                    | 1.642            | 4.0E-08 |
|              | cg06725760 | 10  | 1102461   | <b>WDR37</b>   | 314              | 6.620                                  | 1.342            | 8.2E-07 | 6.033                                     | 1.307            | 3.9E-06 |

<sup>\$</sup>SE: Standard error

\*Cell-count adjusted model was adjusted for age, sex, Framingham family structure and different cell counts

<sup>+</sup>Multivariable adjusted model was adjusted for age, sex, Framingham family structure, and additional risk factors including smoker, height, weight, systolic blood pressure, diastolic blood pressure, prevalent diabetes mellitus, prevalent myocardial infarction, prevalent heart failure and antihypertensive treatment.

**Supplemental Table 2.** Association of top CpG sites with both AF (combining prevalent and incident AF).

| CpG site   | Chr | Position <sup>+</sup> | Closest gene   | Distance | Effect size | SE <sup>*</sup> | P value |
|------------|-----|-----------------------|----------------|----------|-------------|-----------------|---------|
| cg21717959 | 6   | 163148762             | <b>PARK2</b>   | 5'UTR    | 0.003       | 0.001           | 5.9E-06 |
| cg24173182 | 17  | 1961286               | <b>HIC1</b>    | Exon 2   | -0.013      | 0.003           | 7.1E-06 |
| cg06690548 | 4   | 139162808             | <b>SLC7A11</b> | Intron 1 | -0.018      | 0.004           | 7.2E-06 |
| cg14055835 | 19  | 55384515              | <b>FCAR</b>    | Promoter | 0.020       | 0.004           | 7.6E-06 |
| cg25451120 | 17  | 47287444              | <b>GNGT2</b>   | Intron 1 | 0.012       | 0.003           | 8.7E-06 |
| cg01494454 | 12  | 25055214              | <b>BCAT1</b>   | Intron 1 | -0.004      | 0.001           | 8.8E-06 |

<sup>+</sup>NCBI Genome Build 37

\*SE: Standard error