

| Fam     | Gen:subject | Gender/Age | R231C carrier | AF  | KCNH2 rs1805123 K897T | KCNH2 rs1805120 F513F | KCNE1 rs1805127 G38S | KCNE4 rs12621643 E145D | SCN5A rs1805124 H558R | SLN rs583362 | GJA5 rs35594137 | IL10 rs1800872 | PITX2 rs2200733 | PITX2 rs10033464 | ZFXH3 rs7193343 | KCNE5 rs17003955 P33S | CAV1 rs3807989 | SCN5A rs11708996 | SCN10A rs6800541 | NKX2-5 rs251253 | NPPA rs5063 V32M | KCNN3 rs13376333 | SOX5 rs11047543 | TBX5 rs3825214 | ADRB1 rs1801252 S49G |
|---------|-------------|------------|---------------|-----|-----------------------|-----------------------|----------------------|------------------------|-----------------------|--------------|-----------------|----------------|-----------------|------------------|-----------------|-----------------------|----------------|------------------|------------------|-----------------|------------------|------------------|-----------------|----------------|----------------------|
| A I:1   | M/65        | Y          | yes           | A/A | C/T                   | A/G                   | G/G                  | A/A                    | G/G                   | G/G          | C/C             | C/T            | T/G             | C/T              | C               | A/G                   | G/G            | C/T              | T/T              | G/G             | C/T              | G/G              | A/G             | A/A            |                      |
| A I:2   | F/65        | N          | -             | A/C | C/C                   | G/G                   | T/T                  | A/A                    | G/G                   | G/G          | C/C             | C/C            | G/G             | T/T              | C/T             | A/G                   | G/C            | T/T              | C/T              | G/G             | C/C              | G/G              | A/A             | A/A            |                      |
| A II:1  | F/40        | Y          | yes           | A/C | C/T                   | G/G                   | G/T                  | A/A                    | G/G                   | G/G          | C/C             | C/C            | T/G             | C/T              | C/C             | A/A                   | G/G            | T/T              | T/T              | G/G             | C/C              | G/G              | A/A             | A/A            |                      |
| A II:2  | F/39        | N          | -             | A/A | C/T                   | A/G                   | G/T                  | A/A                    | G/G                   | G/G          | C/C             | C/C            | T/G             | T/T              | C/T             | A/A                   | G/G            | C/T              | T/T              | G/G             | C/T              | G/G              | A/G             | A/A            |                      |
| A II:3  | M/38        | Y          | yes           | A/C | C/C                   | A/G                   | G/T                  | A/A                    | G/G                   | G/G          | C/C             | C/C            | T/G             | T/T              | C               | A/G                   | G/C            | T/T              | T/T              | G/G             | C/C              | G/G              | A/G             | A/A            |                      |
| A II:4  | M/37        | Y          | no            | A/A | C/T                   | G/G                   | G/T                  | A/A                    | G/G                   | G/G          | C/C             | C/C            | T/G             | T/T              | T               | G/G                   | G/C            | C/T              | C/T              | G/G             | C/C              | G/G              | A/A             | A/A            |                      |
| A II:5  | M/decased   | Y          | yes           | A/C | C/C                   | G/G                   | G/T                  | A/A                    | G/G                   | G/G          | C/C             | C/T            | G/G             | C/T              | C               | A/G                   | G/G            | T/T              | T/T              | G/G             | C/C              | G/G              | A/A             | A/A            |                      |
| B I:2   | F/40        | Y          | no            | A/A | C/T                   | G/G                   | G/T                  | A/A                    | G/C                   | G/G          | C/C             | C/C            | G/G             | C/C              | C/T             | A/G                   | G/G            | T/T              | C/C              | G/G             | C/C              | G/A              | A/G             | A/A            |                      |
| B II:1  | M/20        | Y          | no            | -   | -                     | A/G                   | -                    | -                      | -                     | -            | -               | -              | -               | -                | -               | -                     | -              | -                | -                | -               | -                | -                | -               | -              |                      |
| B II:2  | M/16        | Y          | no            | A/A | C/C                   | A/G                   | G/T                  | A/A                    | G/C                   | G/G          | C/C             | C/C            | G/G             | C/C              | T               | A/A                   | G/G            | T/T              | C/T              | G/G             | C/C              | G/G              | A/G             | A/A            |                      |
| B II:3  | M/11        | Y          | no            | A/A | C/T                   | A/G                   | G/T                  | A/A                    | C/C                   | G/G          | C/C             | C/C            | G/G             | C/C              | C               | A/A                   | G/G            | T/T              | C/T              | G/G             | C/C              | G/A              | A/A             | A/A            |                      |
| C I:2   | F/33        | Y          | no            | A/A | C/C                   | A/G                   | G/T                  | A/A                    | G/G                   | G/G          | A/C             | C/C            | G/G             | C/C              | C/T             | A/G                   | G/C            | T/T              | T/T              | G/G             | C/C              | G/G              | A/A             | A/A            |                      |
| D I:2   | F/68        | N          | -             | A/A | C/C                   | G/G                   | T/T                  | A/A                    | G/C                   | G/A          | A/C             | C/C            | G/G             | C/T              | C/C             | A/G                   | G/C            | C/T              | C/T              | G/G             | C/C              | G/G              | A/G             | A/G            |                      |
| D II:1  | F/38        | Y          | no            | A/C | C/C                   | G/G                   | G/T                  | A/A                    | C/C                   | G/A          | A/A             | C/C            | G/G             | C/T              | C/C             | G/G                   | G/C            | C/T              | C/T              | G/G             | C/C              | G/G              | G/G             | A/A            |                      |
| E I:2   | F/63        | N          | -             | A/A | C/T                   | A/G                   | G/T                  | A/A                    | C/C                   | G/A          | A/C             | C/C            | T/G             | C/C              | C/C             | A/A                   | G/C            | C/C              | C/T              | G/G             | C/C              | G/A              | A/A             | A/A            |                      |
| E II:1  | F/43        | Y          | no            | A/A | C/T                   | G/G                   | G/T                  | A/A                    | C/C                   | G/A          | A/C             | C/C            | G/G             | C/C              | C/C             | A/A                   | G/C            | C/C              | C/T              | G/G             | C/C              | G/G              | A/A             | A/A            |                      |
| E II:2  | F/40        | Y          | no            | A/A | C/C                   | A/G                   | G/G                  | A/A                    | C/C                   | G/A          | A/A             | C/C            | G/G             | C/C              | C/C             | A/A                   | G/C            | C/C              | C/C              | G/G             | C/C              | G/A              | A/A             | A/A            |                      |
| E III:1 | M/8         | Y          | no            | A/C | C/C                   | G/G                   | G/G                  | A/A                    | G/C                   | G/G          | A/C             | C/T            | G/G             | C/T              | C               | A/A                   | C/C            | C/C              | C/T              | G/G             | C/C              | G/A              | A/A             | A/A            |                      |
| E III:2 | F/2         | Y          | no            | A/A | C/T                   | A/G                   | G/T                  | A/G                    | G/C                   | G/A          | A/C             | C/C            | G/G             | C/C              | C/C             | A/G                   | G/G            | C/T              | C/C              | G/G             | C/T              | G/A              | A/A             | A/A            |                      |
| F I:2   | F/57        | Y          | no            | A/C | C/C                   | G/G                   | G/G                  | A/A                    | G/C                   | G/A          | C/C             | C/C            | G/G             | C/C              | C/C             | A/G                   | G/G            | T/T              | C/C              | G/G             | C/T              | G/G              | A/A             | A/A            |                      |
| F II:1  | F/32        | N          | -             | A/C | C/C                   | G/G                   | G/G                  | A/G                    | C/C                   | G/A          | C/C             | C/C            | G/G             | C/C              | C/T             | A/G                   | G/G            | T/T              | C/T              | G/G             | C/T              | G/A              | A/A             | A/A            |                      |
| F II:2  | M/27        | N          | -             | A/A | C/C                   | G/G                   | G/G                  | A/A                    | G/C                   | A/A          | A/C             | C/C            | G/G             | C/C              | C               | G/G                   | G/G            | C/T              | C/T              | G/G             | C/T              | G/A              | A/A             | A/G            |                      |

Supplemental Reference (1) (2) (3-8) (7-8) (9) (10) (11, 12) (13) (14-17) (14, 16) (18) (19) (20, 21) (21) (21) (21) (22) (23) (21) (20) (24)

**Supplemental Table 1. Genotypes of SNPs associated with AF in R231C families.**

Risk alleles are in red and protective alleles in blue

M indicates male; F female; AF atrial fibrillation

Ethnicity of the families: A, C, D, F: France; B: Maghreb; E: Belgium