

# Title: A SIMPLIFIED SCREENING MODEL TO PREDICT THE RISK OF GESTATIONAL DIABETES MELLITUS IN CAUCASIAN AND LATIN AMERICAN PREGNANT WOMEN

Maria Arnoriaga-Rodriguez et al

Table S1. The SNPs considered for CAU women

|            |             | Gestational diabetes mellitus |            | p       |
|------------|-------------|-------------------------------|------------|---------|
|            |             | NO                            | YES        |         |
| rs10830962 | REF – CC    | 292 (34.2)                    | 43 (26.2)  | 0.0476  |
|            | ALT – CG+GG | 563 (65.8)                    | 121 (73.8) |         |
| rs1387153  | REF – CC    | 447 (52.3)                    | 68 (41.5)  | 0.0111  |
|            | ALT – CT+TT | 408 (47.7)                    | 96 (58.5)  |         |
| rs180587   | REF – AA    | 559 (65.4)                    | 124 (75.6) | 0.0107  |
|            | ALT – AG+GG | 296 (34.6)                    | 40 (24.4)  |         |
| rs3746750  | REF – AA    | 95 (11.1)                     | 13 (7.9)   | 0.225   |
|            | ALT – AG+GG | 760 (88.9)                    | 151 (92.1) |         |
| rs780094   | REF – TT    | 211 (24.7)                    | 28 (17.1)  | 0.0352  |
|            | ALT – TC+CC | 644 (75.3)                    | 136 (82.9) |         |
| rs4402960  | REF – GG    | 404 (47.3)                    | 57 (34.8)  | 0.00323 |
|            | ALT – GT+TT | 451 (57.7)                    | 107 (65.2) |         |
| rs10814916 | REF – AA    | 191 (22.3)                    | 42 (25.6)  | 0.361   |
|            | ALT – AC+CC | 664 (77.7)                    | 122 (74.4) |         |
| rs10830963 | REF – CC    | 476 (55.7)                    | 69 (42.1)  | 0.00138 |
|            | ALT – CG+GG | 379 (44.3)                    | 95 (57.9)  |         |
| rs1496653  | REF – AA    | 573 (67.0)                    | 114 (69.5) | 0.532   |
|            | ALT – AG+GG | 282 (33.0)                    | 50 (30.5)  |         |
| rs17676067 | REF – TT    | 466 (54.5)                    | 80 (48.8)  | 0.178   |
|            | ALT – TC+CC | 389 (45.5)                    | 84 (51.2)  |         |
| rs5215     | REF – CC    | 102 (11.9)                    | 22 (13.4)  | 0.594   |
|            | ALT – CT+TT | 753 (88.1)                    | 142 (86.6) |         |
| rs6048205  | REF – AA    | 771 (90.2)                    | 155 (94.5) | 0.0773  |
|            | ALT – AG+GG | 84 (9.8)                      | 9 (5.5)    |         |
| rs7041847  | REF – AA    | 224 (26.2)                    | 55 (33.5)  | 0.0536  |
|            | ALT – AG+GG | 631 (73.8)                    | 109 (66.5) |         |
| rs7607980  | REF – TT    | 613 (71.7)                    | 132 (80.5) | 0.02    |
|            | ALT – TC+CC | 242 (28.3)                    | 32 (19.5)  |         |
| rs7651090  | REF – AA    | 402 (47.0)                    | 56 (34.1)  | 0.0024  |
|            | ALT – AG+GG | 453 (53.0)                    | 108 (65.9) |         |
| rs10747083 | REF – GG    | 95 (11.1)                     | 26 (15.9)  | 0.0855  |
|            | ALT – GA+AA | 760 (88.9)                    | 138 (84.1) |         |
| rs11671664 | REF – GG    | 661 (77.3)                    | 112 (68.3) | 0.0134  |
|            | ALT – GA+AA | 194 (22.7)                    | 52 (31.7)  |         |
| rs1371614  | REF – CC    | 490 (57.3)                    | 76 (46.3)  | 0.00962 |
|            | ALT – CT+TT | 365 (42.7)                    | 88 (53.7)  |         |
| rs2293941  | REF – GG    | 510 (59.6)                    | 85 (51.8)  | 0.0627  |
|            | ALT – GA+AA | 345 (40.4)                    | 79 (48.2)  |         |
| rs3783347  | REF – GG    | 569 (66.5)                    | 122 (74.4) | 0.049   |
|            | ALT – GT+TT | 286 (33.5)                    | 42 (25.6)  |         |

Differences in genetic variants between Caucasian pregnant women with and without GDM.  
SNPs, single nucleotide polymorphisms, LAT, Latin American

Table S2. The SNP considered for LAT women

|            |             | Gestational diabetes mellitus |           | P      |
|------------|-------------|-------------------------------|-----------|--------|
|            |             | NO                            | YES       |        |
|            |             | N (%)                         | N (%)     |        |
| rs1387153  | REF – CC    | 291 (70.1)                    | 49 (60.5) | 0.0879 |
|            | ALT – CT+TT | 124 (29.9)                    | 32 (39.5) |        |
| rs563694   | REF – CC    | 7 (1.7)                       | 2 (2.5)   | 0.6290 |
|            | ALT – CA+AA | 408 (98.3)                    | 79 (97.5) |        |
| rs737288   | REF - GG    | 257 (61.9)                    | 51 (63.0) | 0.8610 |
|            | ALT – GT+TT | 158 (38.1)                    | 30 (37.0) |        |
| rs780094   | REF - TT    | 43 (10.4)                     | 10 (12.3) | 0.5970 |
|            | ALT – TC+CC | 372 (89.6)                    | 71 (87.7) |        |
| rs1496653  | REF – AA    | 322 (77.6)                    | 70 (86.4) | 0.0742 |
|            | ALT – AG+GG | 93 (22.4)                     | 11 (13.6) |        |
| rs340874   | REF – TT    | 162 (39.0)                    | 44 (54.3) | 0.0107 |
|            | ALT – TC+CC | 253 (61.0)                    | 37 (45.7) |        |
| rs7041847  | REF – AA    | 133 (32.0)                    | 37 (45.7) | 0.0181 |
|            | ALT – AG+GG | 282 (68.0)                    | 44 (54.3) |        |
| rs10747083 | REF – GG    | 24 (5.8)                      | 6 (7.4)   | 0.5750 |
|            | ALT – GA+AA | 391 (94.2)                    | 75 (92.6) |        |
| rs2302593  | REF – CC    | 74 (17.8)                     | 20 (24.7) | 0.1500 |
|            | ALT – CG+GG | 341 (82.2)                    | 61 (75.3) |        |
| rs2943634  | REF – AA    | 31 (7.5)                      | 4 (4.9)   | 0.4160 |
|            | ALT – AC+CC | 384 (92.5)                    | 77 (95.1) |        |
| rs9368222  | REF – CC    | 258 (62.2)                    | 38 (46.9) | 0.0105 |
|            | ALT – CA+AA | 157 (37.8)                    | 43 (53.1) |        |
| rs10885122 | REF – TT    | 14 (3.4)                      | 8 (9.9)   | 0.0093 |
|            | ALT – TG+GG | 401 (96.6)                    | 73 (90.1) |        |
| rs11605924 | REF – AA    | 100 (24.1)                    | 23 (28.4) | 0.4130 |
|            | ALT – AC+CC | 315 (75.9)                    | 58 (71.6) |        |
| rs2293941  | REF – GG    | 222 (53.5)                    | 34 (42.0) | 0.0578 |
|            | ALT – GA+AA | 193 (46.5)                    | 47 (58.0) |        |

Differences in genetic variants between Latin American pregnant women with and without GDM.

SNPs, single nucleotide polymorphisms, CAU, Caucasian

Table S3. Logistic regression model for CAU women including age and pre-pregnancy BMI

|                 | OR         | 95%CI      |           | P        |
|-----------------|------------|------------|-----------|----------|
| Intercept       | 0.08906893 | 0.05552965 | 0.1395095 | <0.001   |
| Age: > 35       | 1.46702067 | 1.02831632 | 2.0871113 | 0.03356  |
| Pre-BMI: >=25   | 2.12206154 | 1.39269919 | 3.1954808 | 0.000372 |
| rs10830963: ALT | 1.80737864 | 1.27820687 | 2.5680312 | 0.000868 |
| rs7651090: ALT  | 1.72787979 | 1.21179796 | 2.4865168 | 0.002813 |
| rs7607980: ALT  | 0.57979453 | 0.3733052  | 0.8777595 | 0.012205 |
| rs1371614: ALT  | 1.66053987 | 1.17503854 | 2.3533848 | 0.004155 |
| rs180587: ALT   | 0.59469219 | 0.39711646 | 0.8745811 | 0.009704 |
| rs3783347: ALT  | 0.66739288 | 0.44805113 | 0.9779226 | 0.041829 |

Pre-BMI, pre-pregnancy body mass index. CAU, Caucasian

Table S4. Logistic regression model also considering FPG 12 GW for CAU women

|                   | OR         | 95%CI      |            | P       |
|-------------------|------------|------------|------------|---------|
| Intercept         | 0.05549941 | 0.03354322 | 0.08923539 | 0.03219 |
| Age: > 35         | 1.47994495 | 1.03212137 | 2.11709263 | 0.00287 |
| Pre-BMI: >=25     | 1.90343168 | 1.23794349 | 2.89063533 | <0.001  |
| FPG 12 GW: > 83.5 | 2.62071031 | 1.84036658 | 3.73846355 | 0.00122 |
| rs10830963: ALT   | 1.79095409 | 1.26036053 | 2.55697023 | 0.00364 |
| rs7651090: ALT    | 1.71505434 | 1.19687989 | 2.47993587 | 0.00625 |
| rs180587: ALT     | 0.57279023 | 0.38036776 | 0.84703779 | 0.00371 |
| rs1371614: ALT    | 1.68456862 | 1.18580673 | 2.40079062 | 0.01396 |
| rs7607980: ALT    | 0.58269177 | 0.37360424 | 0.88613394 | 0.03219 |

FPG, Fasting plasma glucose; Pre-BMI, pre-pregnancy body mass index. CAU, Caucasian

Table S5. Logistic regression model for LAT women including age and pre-pregnancy BMI

|                 | OR        | 95%CI     |           | P       |
|-----------------|-----------|-----------|-----------|---------|
| Intercept       | 0.5497175 | 0.1786628 | 1.6171092 | 0.28288 |
| Age: > 35       | 2.1312221 | 1.1845606 | 3.7870795 | 0.0104  |
| Pre-BMI: >=25   | 2.8542084 | 1.6995756 | 4.8106824 | <0.001  |
| rs7041847: ALT  | 0.4852078 | 0.2864382 | 0.8211108 | 0.00694 |
| rs340874: ALT   | 0.4974073 | 0.2952994 | 0.8313401 | 0.00799 |
| rs9368222: ALT  | 1.7668956 | 1.0619215 | 2.9517288 | 0.02861 |
| rs10885122: ALT | 0.2966123 | 0.1100393 | 0.8418865 | 0.0179  |
| rs1496653: ALT  | 0.4581395 | 0.2124372 | 0.9080521 | 0.03376 |
| rs1387153: ALT  | 1.8760245 | 1.0922772 | 3.2094297 | 0.02171 |

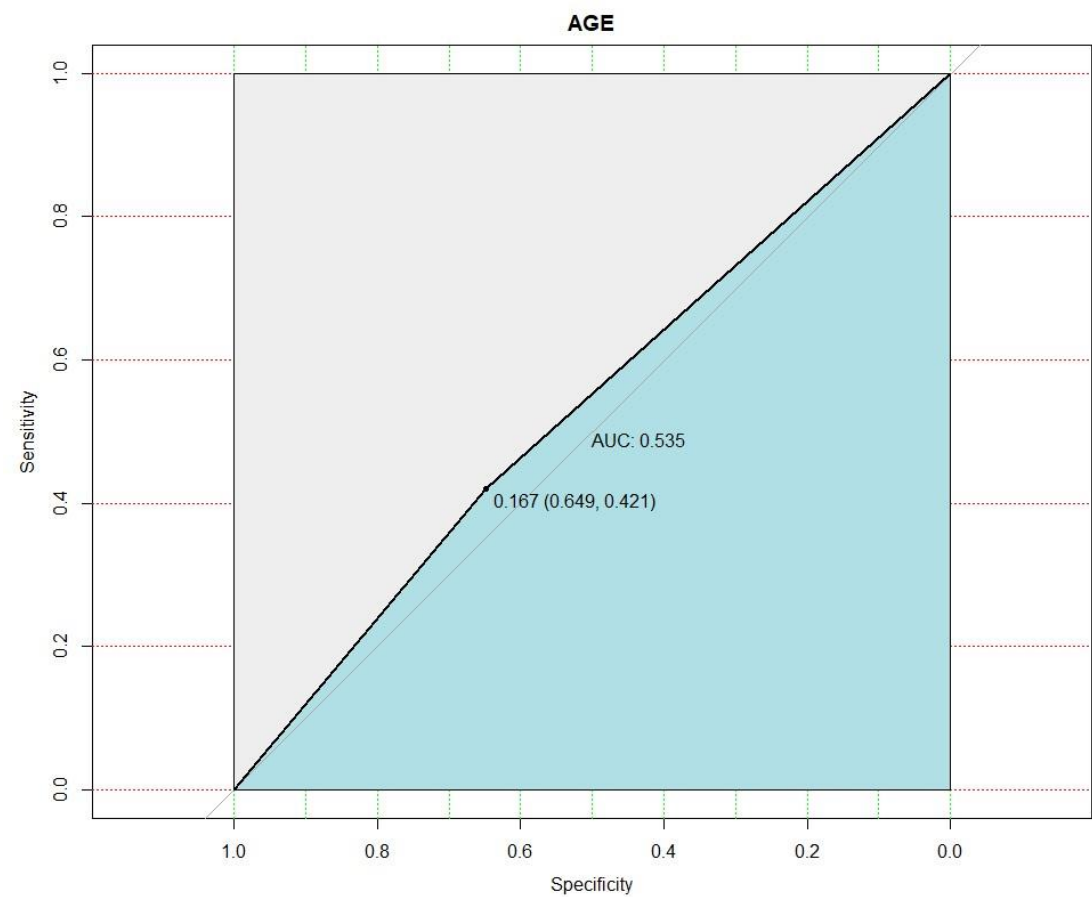
Pre-BMI, pre-pregnancy body mass index. LAT, Latin American

Table S6. Logistic regression model also considering FPG 12 GW for LAT women

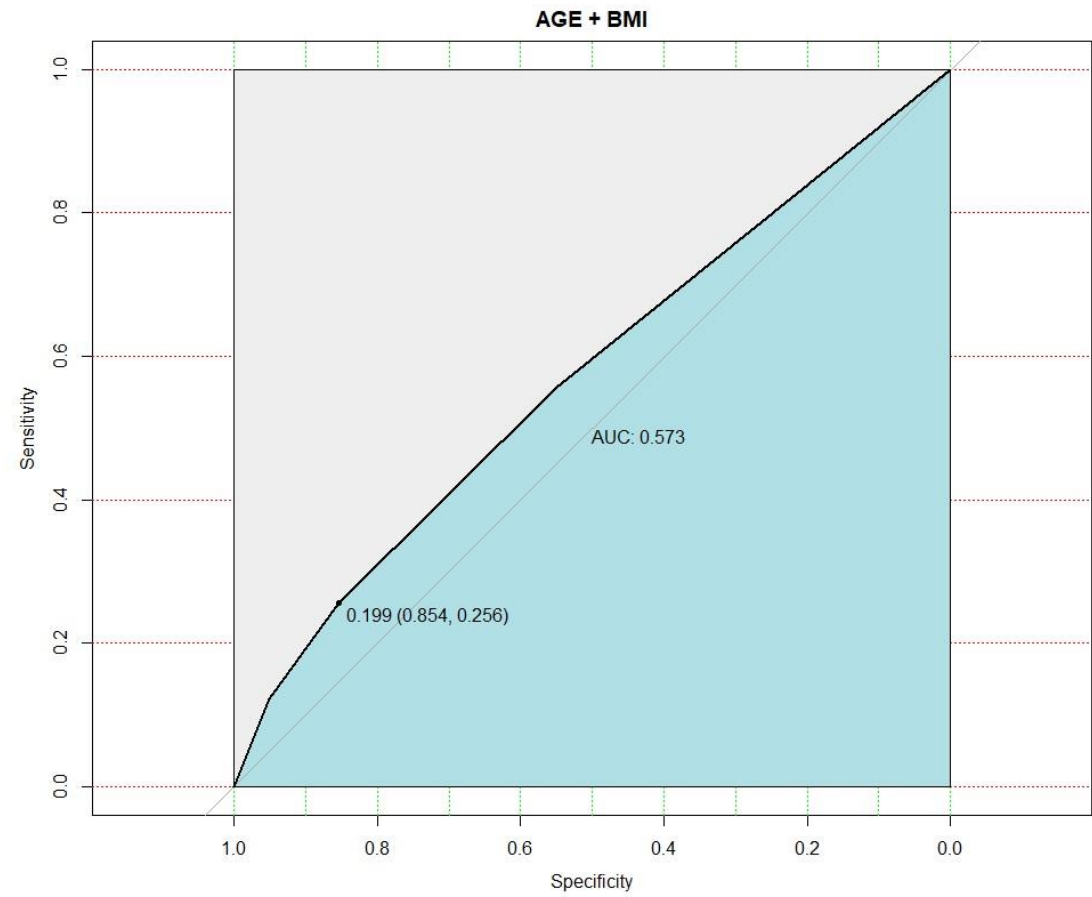
|                   | OR        | 95%CI     |           | P        |
|-------------------|-----------|-----------|-----------|----------|
| Intercept         | 0.4723906 | 0.1497954 | 1.4159917 | 0.186671 |
| Age: > 35         | 1.9855988 | 1.0866697 | 3.5801662 | 0.023587 |
| Pre-BMI: [25, 30) | 2.627349  | 1.5426087 | 4.482802  | 0.000371 |
| FPG 12 GW: > 82.5 | 2.0526991 | 1.2143135 | 3.4922313 | 0.007435 |
| rs340874: ALT     | 0.4870384 | 0.2853661 | 0.8245569 | 0.007682 |
| rs10885122: ALT   | 0.2562977 | 0.0946125 | 0.7344631 | 0.008427 |
| rs9368222: ALT    | 1.8526053 | 1.0997165 | 3.1374001 | 0.020757 |
| rs1496653: ALT    | 0.3823132 | 0.1644848 | 0.7974975 | 0.015927 |
| rs7041847: ALT    | 0.4918504 | 0.2873367 | 0.8413493 | 0.009405 |
| rs1387153: ALT    | 1.8471792 | 1.0601884 | 3.2048885 | 0.029122 |

FPG, Fasting plasma glucose; Pre-BMI, pre-pregnancy body mass index. LAT, Latin American

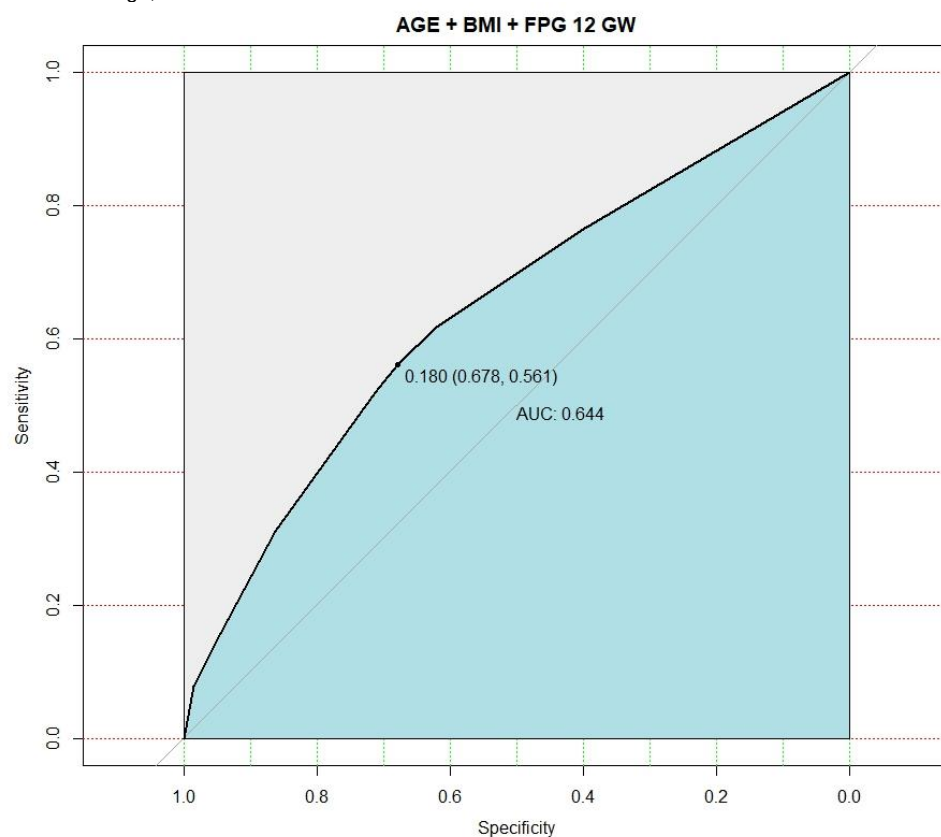
FIGURE S1. ROC for CAU  
Panel a for age



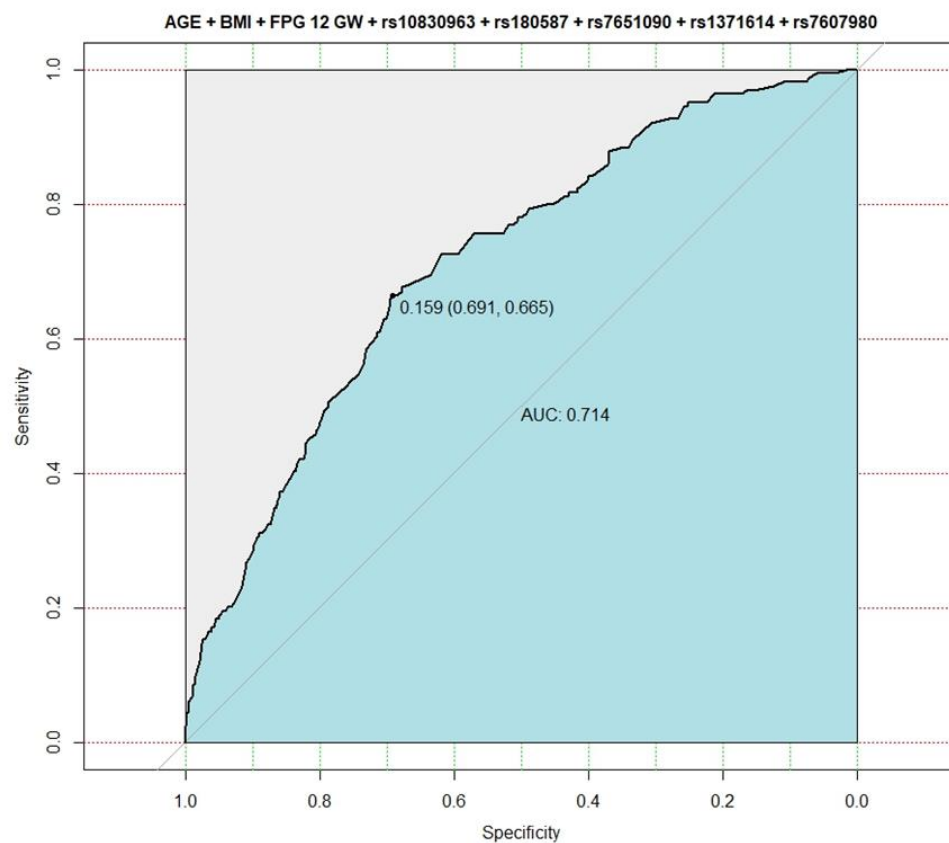
Panel b for age and BMI



Panel C for Age, BMI and FPG

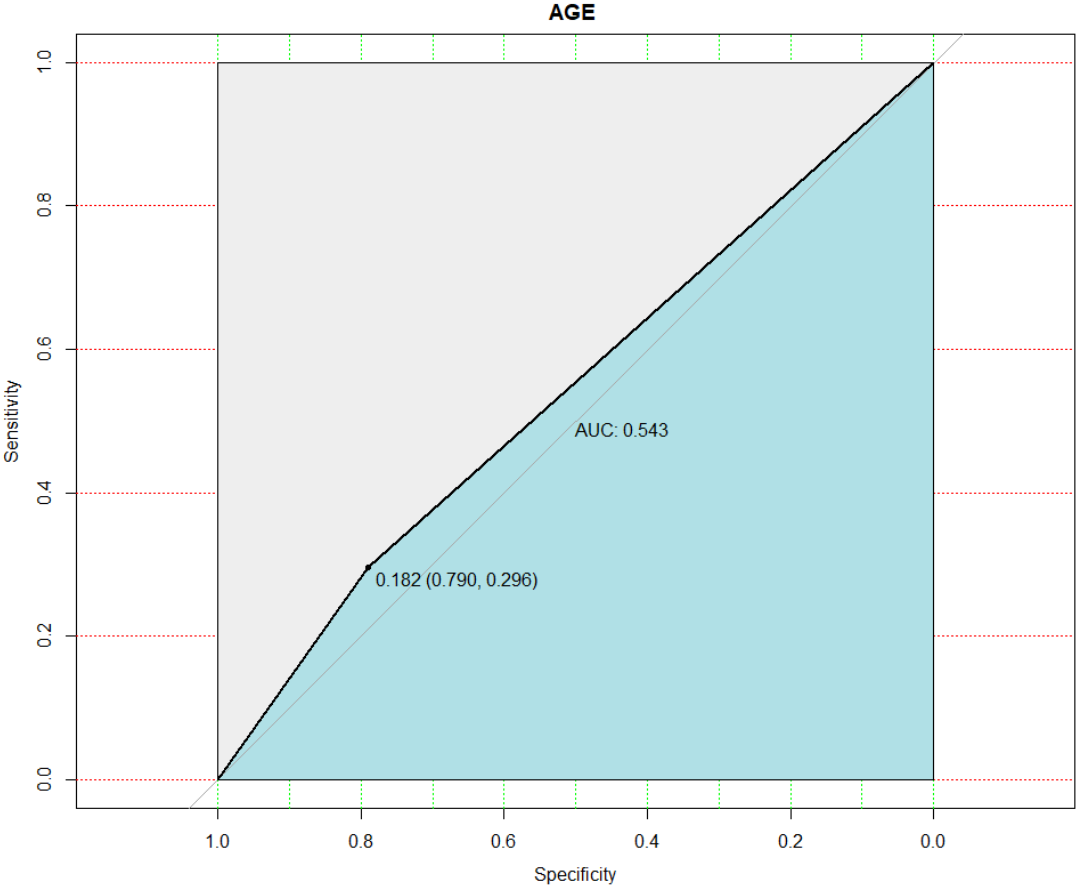


Panel d For Relevant SNPs and age, BMI and FPG

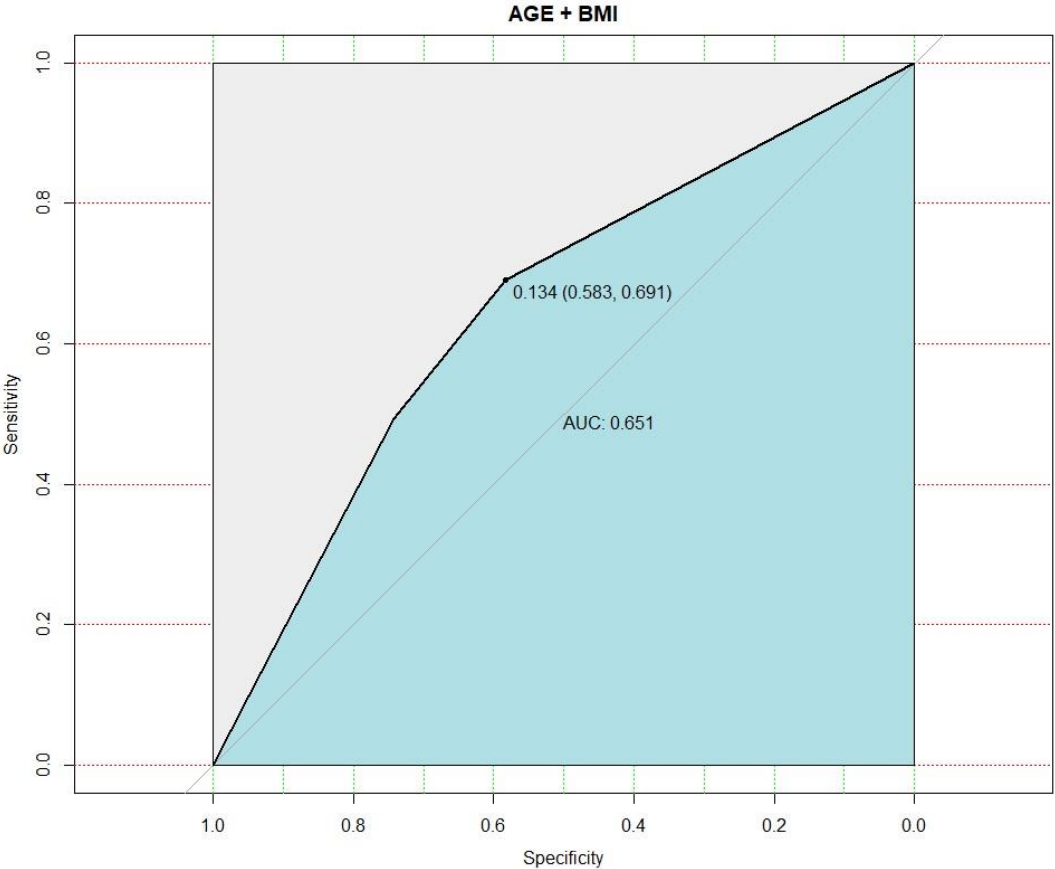


CAU, Caucasian; FPG, fasting plasma glucose; GW, gestational week.

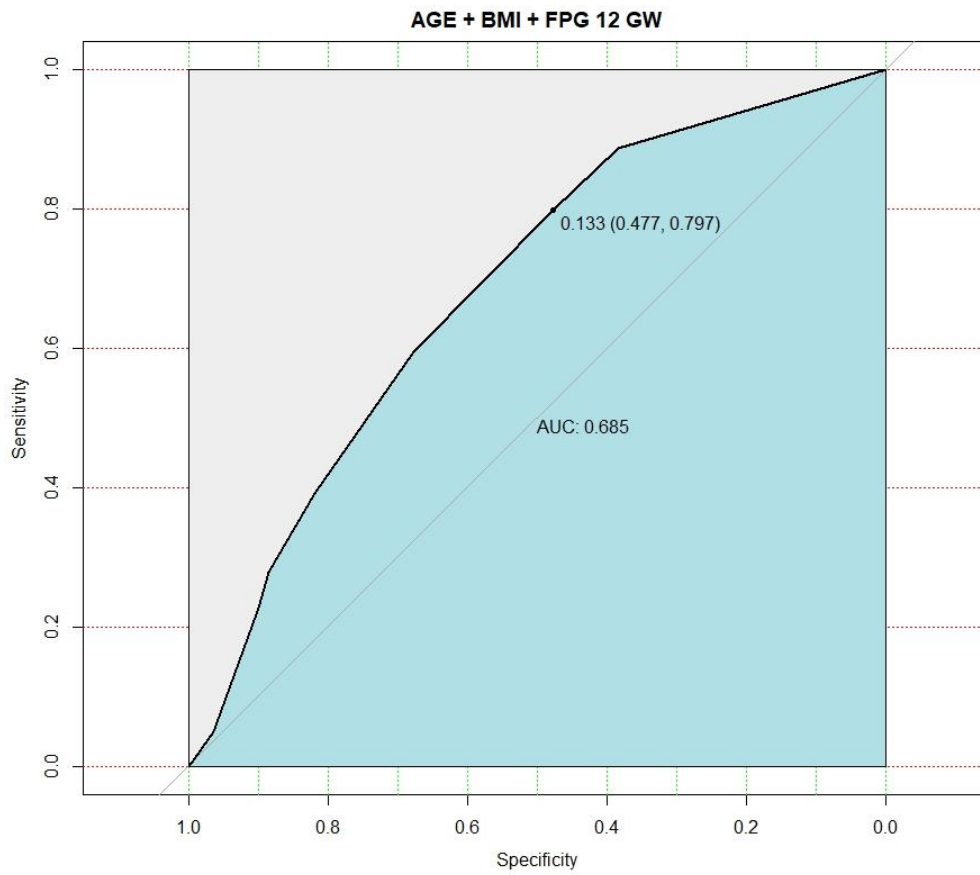
Figure S2 ROC for LAT  
Panel a for Age



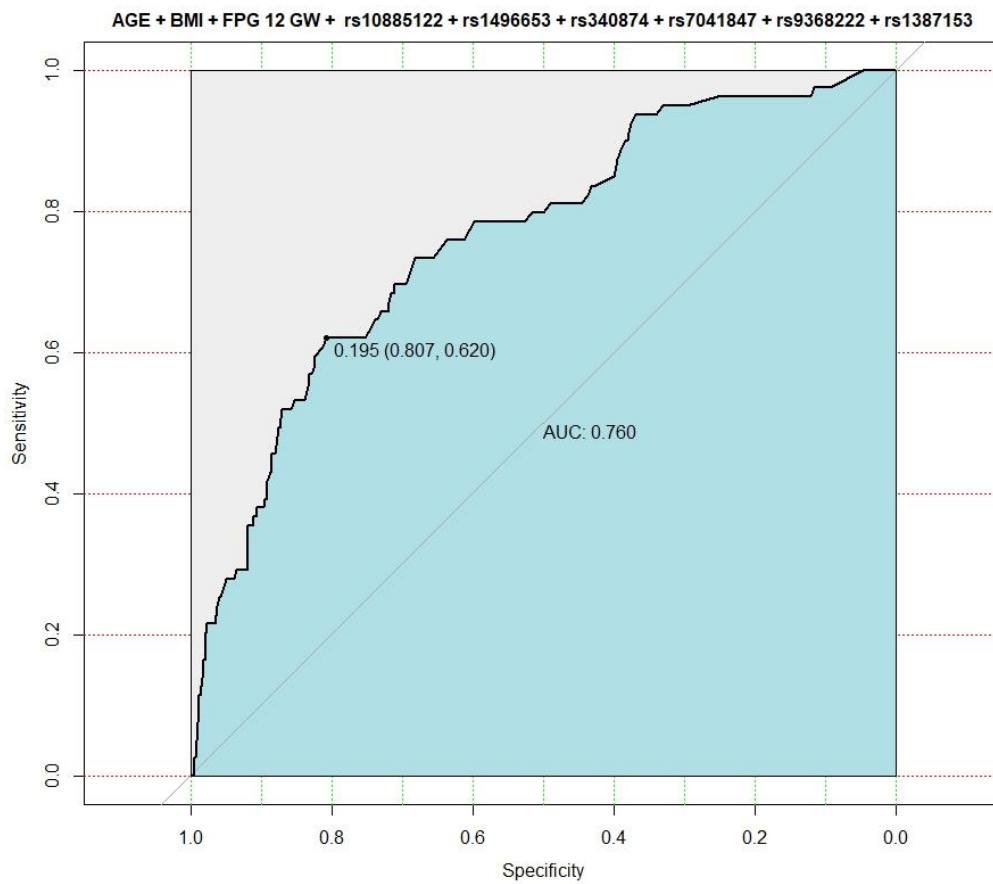
Panel b for Age and BMI



Panel c for Age, BMI and FPG



Panel d For Relevant SNPs and age, BMI and FPG



LAT,  
Latin American; FPG, fasting plasma glucose; GW, gestational week.