# SUPPLEMENTAL MATERIAL

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**Table S1. *CYP2C19* Genotyping Platform and Alleles Detected at Each Institution.**

| Institution | Genotyping Platform | Alleles | Indication for Genotyping |
|---|---|---|---|
| University of Florida, Gainesville | GenMark Diagnostics, Inc. eSensor technology (Carlsbad, CA) | **2, *3, *4, *5, *6, *8, *9, *10, *13, *17* | Year 1: left heart catheterization. After Year 1: PCI for ACS or stable CAD |
| University of North Carolina, Chapel Hill | Life Technologies™ Taqman® (custom assay) | **2, *3, *17* | Ordered per interventional cardiologist discretion post-PCI for an ACS indication or a non-ACS indication with high-risk anatomic findings |
| University of Maryland, Baltimore | Life Technologies™ Taqman® (custom assay) | **2, *3, *4, *6, *8, *17* | Year 1: Left heart catheterization. After Year 1: Part of post-PCI order set (optional). Ordered per interventional cardiologist discretion for an ACS indication or "high-risk" non-ACS indication. |
| University of Pennsylvania | Spartan RX, Spartan Bioscience Inc. (Ottawa, ON) | **2, *3, *17* | Ordered as part of a prospective clinical implementation trial. (PMID: 31928229) |

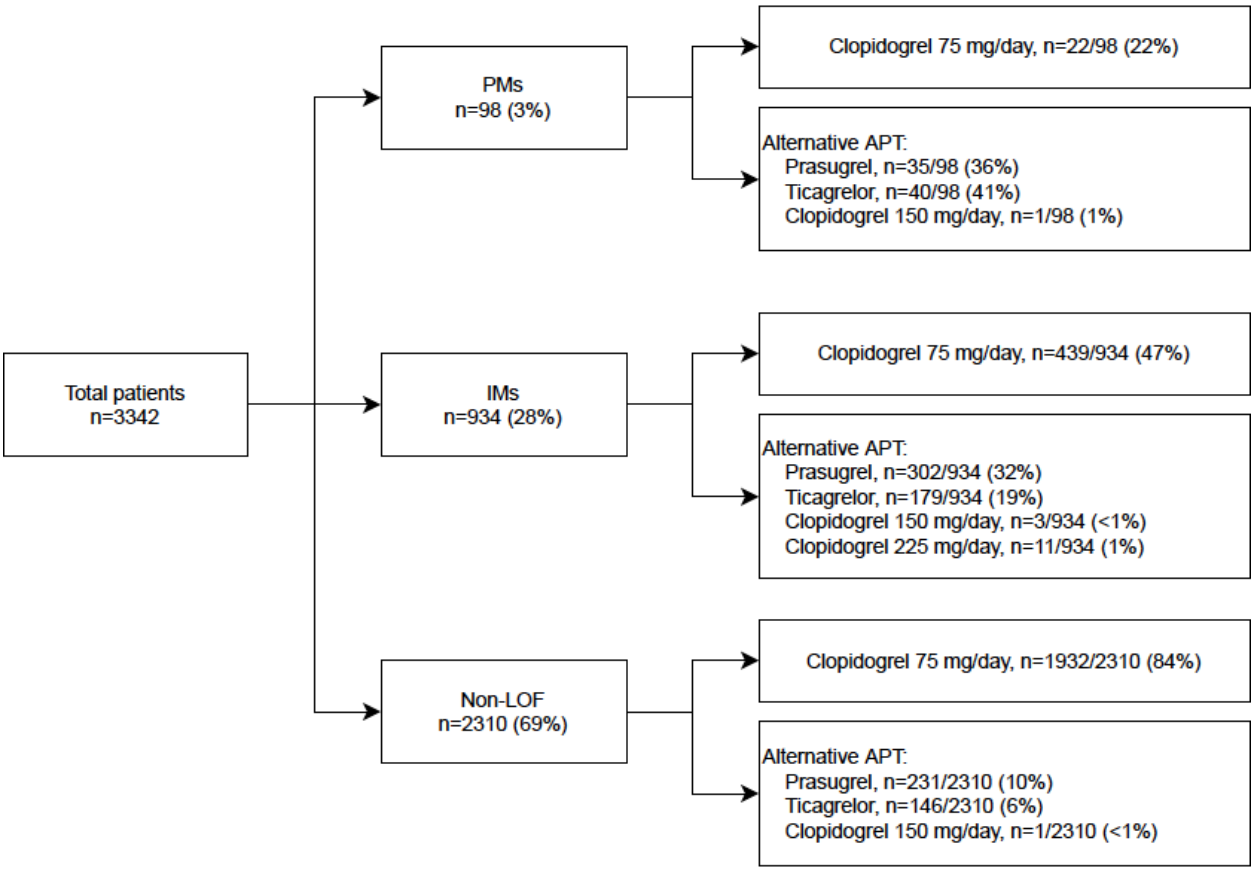
| | | | |
|---|---|---|---|
| University of Florida, Jacksonville | Spartan RX, Spartan Bioscience Inc. (Ottawa, ON) | **2, *3, *17* | Ordered as part of a prospective clinical implementation trial of patients undergoing LHC with intent to undergo PCI. |
| University of Alabama, Birmingham | Spartan RX, Spartan Bioscience Inc. (Ottawa, ON) | **2, *3, *17* | Ordered per interventional cardiologist discretion post-PCI for ACS or elective /elective indication based on patient specific determination of risk. |
| University of Pittsburgh | GenMark Diagnostics, Inc. eSensor technology (Carlsbad, CA) | **2, *3, *4, *5, *6, *7, *8, *9, *10, *17* | Ordered per interventional cardiologist using the post-PCI order set (defaulted; the prescriber could choose to deselect the test). |
| University of Illinois, Chicago | GenMark Diagnostics, Inc. eSensor technology (Carlsbad, CA) | **2, *3, *4, *5, *6, *8, *9, *10, *13, *17* | PCI for ACS or stable CAD (with high-risk anatomic findings) |
| Indiana University | Life Technologies™ Taqman® (custom assay) | **2, *3, *4, *4B, *6, *8, *10, *17* | PCI for ACS or stable CAD |

**Table S2. Patient Characteristics after Adjustment for Stabilized Inverse Probability of Treatment Weights**

| Characteristic | LOF-Clopidogrel (n=460) | LOF-Alternative (n=571) | Standardized Difference* | Non-LOF-Clopidogrel (n=1891) | Non-LOF-Alternative (n=372) | Standardized Difference* |
|---|---|---|---|---|---|---|
| Age, years | 62 ± 12 | 62 ± 11 | 0.004 | 63 ± 12 | 63 ± 11 | 0.007 |
| Female | 145 (32) | 178 (31) | 0.008 | 612 (32) | 122 (33) | 0.012 |
| Race | | | | | | |
| White | 323 (70) | 403 (71) | 0.011 | 1407 (74) | 274 (74) | 0.02 |
| Black | 104 (23) | 127 (22) | | 354 (19) | 73 (20) | |
| Other | 32 (7) | 41 (7) | | 129 (7) | 26 (7) | |
| BMI, kg/m$^2$ | 30 ± 7 | 30 ± 7 | 0.007 | 30 ± 6 | 30 ± 6 | 0.024 |
| Current Smoker | 146 (32) | 178 (31) | 0.011 | 540 (29) | 111 (30) | 0.029 |
| ACS indication for PCI | 320 (70) | 396 (69) | 0.006 | 1302 (69) | 257 (69) | 0.004 |
| Drug-eluting stent | 387 (84) | 483 (85) | 0.009 | 1647 (87) | 320 (86) | 0.027 |
| Medical history | | | | | | |
| Diabetes | 180 (39) | 220 (39) | 0.013 | 782 (41) | 160 (43) | 0.032 |
| Hypertension | 365 (80) | 451 (79) | 0.012 | 1538 (81) | 306 (83) | 0.028 |
| Dyslipidemia | 323 (70) | 401 (70) | 0.002 | 1309 (69) | 269 (72) | 0.067 |
| CKD | 147 (32) | 180 (32) | 0.013 | 501 (27) | 102 (28) | 0.021 |
| MI | 128 (28) | 156 (27) | 0.009 | 482 (26) | 99 (27) | 0.028 |
| Coronary stent | 104 (23) | 126 (22) | 0.016 | 443 (23) | 99 (27) | 0.072 |
| Stroke/TIA | 49 (11) | 60 (10) | 0.01 | 172 (9) | 29 (8) | 0.044 |
| PVD | 51 (11) | 64 (11) | 0.001 | 167 (9) | 23 (6) | 0.097 |
| Heart failure | 75 (16) | 93 (16) | 0.004 | 287 (15) | 62 (17) | 0.039 |
| Atrial fibrillation | 43 (9) | 52 (9) | 0.004 | 154 (8) | 35 (9) | 0.043 |
| Gastrointestinal or intracranial hemorrhage | 22 (5) | 28 (5) | 0.002 | 52 (3) | 18 (5) | 0.105 |
| Cancer | 21 (5) | 26 (5) | 0.004 | 104 (6) | 19 (5) | 0.011 |
| Discharge medication | | | | | | |
| Aspirin | 450 (98) | 559 (98) | 0.001 | 1846 (98) | 364 (98) | 0.027 |
| Statin | 438 (95) | 543 (95) | 0.002 | 1777 (94) | 351 (94) | 0.015 |
| ACE inhibitor or ARB | 310 (68) | 386 (68) | 0.001 | 1259 (67) | 237 (64) | 0.057 |
| β-blocker | 382 (83) | 475 (83) | <0.001 | 1626 (86) | 318 (86) | 0.011 |
| Anticoagulant | 41 (9) | 48 (8) | 0.015 | 168 (9) | 38 (10) | 0.044 |

Values are mean ± SD or n (%). * Weighted absolute standardized differences were calculated using stabilized inverse probability of treatment weighting.

**Figure S1. Antiplatelet therapy in poor metabolizers (PMs), intermediate metabolizers (IMs), and patients without a loss-of-function allele.**




APT, antiplatelet therapy; IM, intermediate metabolizer; LOF, loss-of-function; PM, poor metabolizer.