**Appendix Table E94. Phenotypic test details in studies assessing the predictive ability of PFA-100 in patients with ischemic heart disease**

| **Author, year [ref]**  **UID**  **Country**  **Study Name** | **Test/Device name**  **Device category Device name & manufacturer\*** | **Agonist used** | **Sample Collection and Procurement**  **Anticoagulant used**  **Interval between clopidogrel doses and blood sampling (in days)**  **Interval between sampling and testing (in days):** | **Grouping of Phenotypes\*\* [Definition]** | **Rational for the grouping of phenotypes reported (Yes/No)**  **[short description]** | **Frequency of phenotypes** |
| --- | --- | --- | --- | --- | --- | --- |
| Malek,  2007  17295159  Poland  NR | Platelet function analysis  PFA-100  point-of-care device  – PFA-100; Dade Behring, Germany | ADP | sample collected after the acute phase of ACS (2-9 days after admission)  3.2% sodium citrate  NR  NR | Group 1 with CADP-CT<104 s group 2 with CEPI-CT <190 s group 3 with CADP CT <104 s and CEPI-CT <190 s both CT values above the cut-off limits | not explicitly reported. | Group 1 (n=10, 11%),  group 2 (n=10, 11%),  group 3 ( n=9, 9.9%)  a control group (n=62, 68.1%). |
| Breet, 2010  20179285  Netherlands  POPULAR | PFA 100  the Dade PFA  collagen/ADP test cartridge(PFA-100system)  Siemens  Healthcare Diagnostics Products GmbH,Marburg, Germany | ADP | NR  3.8% buffered citrated blood  NR  2 hours | PFA ≤147 seconds | Based on ROC curve | NR |
| Breet, 2010  20179285  Netherlands  POPULAR | INNOVANCE® PFA P2Y\*  NR  NR | ADP, PGE1, calcium | NR  3.8% buffered citrated blood  NR  2 hours | PFA ≤59 seconds | Based on ROC curve | NR |
| Foussas,  2007  17892990  Greece  None | PFA-100  Closure time  Dade-Behring, Collagen+ADP or epiephrine Marburg, Germany | Collagen+ADP or epiephrine | Blood samples obtained after femoral or brachial arterial sheath insertion in the catheterization laboratory. After rejection of the first few milliliters, blood for PFA-100 analysis was collected into tubes.  The time required to occlude the aperture is automatically reported as the closure time (CT). Measurements are terminated after ≤300 seconds.  citrate  Aspirin+clopidogrel loading done >12 hr before stenting; mean/SD 37.4/23.5 hr  within 1 hour | CEPI-CT >193 sec  (responders)  CEPI-CT ≤193 sec (nonresponders) | Based on literature | CEPI-CT >193 sec 489 (79.9%)  (responders)  CEPI-CT ≤193 sec (nonresponders)  123 (20.1%) |
| Smit,  2010  20889993  Netherlands  ON-TIME-2 | PFA  Platelet function analyser  PFA-100/ Dade Behring, Marburg, Germany | 2 mg type I collagen with either 50 mg epinephrine bi-tartrate (col-EPI) or 50 mg ADP (col-ADP) | Whole blood; collected before PCI  NR  NR  Clopidogrel came first  NR | quartiles 1-4 | Not explicitly reported | quartiles 1 162 (25%)  quartiles 2 162 (25%)  quartiles 3 162 (25%)  quartiles 4 162 (25%) |
| Huczek,  2008  18301358  Poland  NR | PFA-100  PFA-100  Dade Behring, Newark, Delaware | epinephrine and collagen (for Thromboxane A2 pathway) and ADP and collagen (for ADP-dependent pathway) | Venous blood; day 3 & 30 after stenting  3.8% buffered sodium  citrate  0.08 days (2 hours)  Clopidogrel came first  0.02-0.04 days (0.5-1 hr) | group I (CEPI-CT ≥193 seconds and CADP-CT ≥130 seconds, i.e.  complete platelet function inhibition)  Group II (either CEPI-CT<193 seconds or CADP-CT<130 seconds, i.e. partial platelet function inhibition)  Group III (CEPI-CT<193 seconds and CADP-CT<130 seconds, i.e. no platelet function inhibition). | Previously published information | group I 67 (53.6%)  Group II 21(16.8%)  Group III 37 (29.6%) |
| Moerenhout,  2010  20211306  Belgium  NR | PFA-100  platelet function analyzer (PFA-100 C/ADP)  NR | Collagen and ADP | blood before PCI  NR  0.5 days (12 hrs)  Clopidogrel came first  NR | nonresponder (PFA value <71 seconds)  responder (PFA value >71 seconds) | Based on literature | nonresponder (PFA value <71 seconds) 17 (7%)  responder (PFA value >71 seconds) 225 (93%) |
| Siller-Matula,  2009  19135705  Austria  NR | PFA-100  PFA-100  Dade Behring, Marburg, Germany | collagen and adenosine diphosphate  (ADP) | 1st blood sample: in catheterization laboratory, after PCI and after 250 mg IV aspirin  2nd blood sample: 20‑24 hours after PCI  3.8% citrate  NR  Clopidogrel came first  0.04 days (1 hour) | Collagen ADP closure time between 65-120 s by PFA-100  Collagen ADP closure time between <65 s & >120 s by PFA-100 | Normal ranges as reported by manufacturer | Collagen ADP closure time between 65-120 s by PFA-100 ; 20 (67%)  Collagen ADP closure time between <65 s & >120 s by PFA-100; 10 (33%) |
| Gori,  2008  19132241  Italy  RECLOSE | PFA-100 system  NR  Dade-Behring, Marburg, Germany | Collagen/epinephrine or collage/ADP | Platelet reactivity measured 12 to 18 hr after clopidogrel loading  citrate  For patients receiving in the catheterization laboratory both the loading dose of clopidogrel and a IIb/IIIa inhibitor, blood samples were obtained after six days while the patient was on the 75-mg maintenance dose of clopidogrel.  NR | RPR by CEPI PFA-100 (<203 sec)  No RPR  Patients at high risk for adverse events:  RPR by CEPI PFA-100 (<238 sec)  RPR by CADP PFA-100.(<105 sec) | previous literature | RPR by CEPI PFA-100 (<203 sec);133/746 (18%)  No RPR; 613/746 (82%)  RPR by CEPI PFA-100 (<238 sec) :238/746 (32%)  RPR by CADP PFA-100.(<105 sec) :196/398 (49%) |
| Siller-matula, 2012{Siller-Matula, 2012 18177 /id}  22260716  Austria  PEGASUS-PCI | PFA-100  platelet function analyzer  The PFA-100 (Dade Behring, Marburg, Germany) | ADP | Blood samples from patients  were obtained from the arterial sheath (6F) in the catheterization  laboratory directly post-PCI and at least 5 min after  intravenous infusion of aspirin.  3.8% sodium citrate  NR  performed up to 24 h after blood sampling | Clopidogrel  non-responder  according to MEA (≥ 48 U)  Clopidogrel responder  according to MEA  (< 48 U)  n = 321 (80%) | ref 16, 28 | non-responder  n = 81 (20%)  responder  n = 321 (80%) |
| Chiu 2011{Chiu, 2011 18180 /id}  21925055  Taiwan  NR | PFA-100  platelet function analyzer  The PFA-100 (Dade Behring, Marburg, Germany) | Collagen and ADP | Blood samples prior to cardiac catheterization  3.8% sodium citrate  NR; clopidogrel came first  0.08 days (2 hours) | CADP-CT<95 s  CADP-CT≥95 s | Based on ROC curve (to predict primary endpoint [MACE]) | CADP-CT<95 s = 29 (27%)  CADP-CT≥95 s = 105 (73%) |

ADP= adenosine 5'-diphosphate; Ag= aggregation; PGE1=prostaglandin; ROC=receiver operating characteristic; AUC=area under the curve; IPA= inhibition of platelet aggregation; LTA= light transmission aggregometry; MEA= multiple electrode platelet aggregometry; PFA= platelet function analysis; TEG=thromboelastography; sTEG=short thromboelastography; VASP = vasodilator-stimulated phosphoprotein; VASP-FCT=vasodilator-stimulated phosphoprotein flow cytometry; CEPI=collagen-epinephrine ; CADP=collagen-ADP; CT=closure times; HCPR=high on-clopidogrel platelet reactivity; PCI = percutaneous coronary intervention; RPA= residual platelet aggregation; GP= glycoprotein; HRP=high platelet reactivity; NPR=normal on-treatment platelet reactivity; HPPR= high post-treatment platelet reactivity; MPA= maximum platelet aggregation; RPR= residual platelet reactivity; OTPR=on-treatment platelet reactivity; DPAI= degree of platelet aggregation inhibition; PRU=P2Y12 reaction units; CRP=C-reaction protein; PRI=platelet reactivity index; LR=low responder; IQR=interquartile range; AA= arachidonic acid; LD=loading dose; MD=maintain dose; SD=standard deviation; NR=not reported