**Appendix Table E4. Reporting characteristics and methodological quality of studies of analytic validity**

| **Author**  **Year**  **Country**  **PMID** | **Was the execution of the assay described in sufficient detail to permit replication?** | **Were both positive and negative control samples tested?** | **Were negative control materials from the same**  **type of tissue, and collected, stored, and processed in the same way that sample materials used clinically for testing will be?** | **Were the tests performed with positive or negative control samples being blinded to the testers?** | **Were the testing results interpreted with positive or negative control samples being blinded to the interpreters?** | **Were criteria for determining a testing result as positive, negative, indeterminate, or uninterpretable set *a priori*?** | **Was the limit of detection of the test reported?** | **Was the assay linearity range reported?** | **Was the reproducibility of the test when performed multiple times**  **on a single specimen established?** | **Was the reproducibility of the test adequately established(across operators/ instruments/reagent lots/ different**  **days of the week/ different laboratories)?** | **Were the study data from a multisite collaborative, proficiency testing, or interlaboratory exchange programs?** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Michelson  2009{Michelson, 2009 121 /id}  USA  19435740 | YES | NR | NA | NR | NR | YES  (thresholds based on prior literature; criteria for non-evaluable samples) | NO | NO | NO | NO | YES  (data read locally at each of the 13 participating centers; centralized testing was done for all samples; agreement between central and local readings NR) |
| Paniccia  2009{Paniccia, 2009 127 /id}  Italy  19461090 | YES | NR | NA | NR | NR | YES  (thresholds based on prior literature; alternative thresholds for analytic performance derived from ROC analysis) | NO | NO | YES | NO | NO |
| Oestreich  2009{Oestreich, 2009 132 /id}  USA  19318928 | YES | NR | NA | NR | NR | NO  (thresholds for poor response were defined based on the study data: values 2 or more standard errors higher than the mean value for each assay) | NO | NO | NO | NO | NO |
| Marcucci  2007{Marcucci, 2007 192 /id}  Italy  17938810 | YES | NR | NA | NR | NR | NO  (thresholds for poor response were defined based on study data on control individuals: values beyond the 90th percentile of controls were considered positive) | NO | NO | NO | NO | NO |
| Frere  2007{Frere, 2007 193 /id}  France  17938809 | YES | NR | NA | NR | NR | NO  (thresholds for poor response were defined based on study data on subsequent vascular events, using ROC analysis) | NO | NO | UNCLEAR (COV reported for one of the assays but methods for calculation not reported) | NO | NO |
| Paniccia  2007{Paniccia, 2007 198 /id}  Italy  17723123 | YES | NR | NA | NR | NR | YES (for *some* of the assays cut-offs were derived from the prior literature) | NO | NO | YES (for one of the assays) | NO | NO |
| Van Werkum  2006{van Werkum, 2006 209 /id}  Netherlands  16938130 | YES | NR | NA | NR | NR | NA  (no thresholds were employed) | NO | NO | NO | NO | NO |
| Mobley  2004{Mobley, 2004 221 /id}  USA  14969622 | YES | NR | NA | NR | NR | NO | NO | NO | NO | NO | NO |
| Ren  2011{Ren, 2011 18276 /id}  China  21518592 | YES | NR | NA | NR | NR | NO | NO | NO | NO | NO | NO |
| Godino  2009{Godino, 2009 18277 /id}  Italy  19419580 | YES | NR | NA | NR | NR | NO  (thresholds were determined based on the observed distribution of measurements) | NO | NO | NO | NO | NO |
| Paniccia  2011{Paniccia, 2011 31 /id}  Italy  21192314 | YES | NR | NA | NR | NR | YES  (cut-offs were derived based on prior literature) | NO | NO | YES | NO | NO |
| Koessler  2011{Koessler, 2011 32 /id}  Germany  20873965 | YES | NR | NA | NR | NR | YES  (cut-offs in some analyses were those suggested by the manufacturer; other cut-offs were used as part of the study design) | NO | NO | NO  (however, experiments were run at least in duplicate and results were averaged) | NO | NO |
| Paniccia  2010{Paniccia, 2010 69 /id}  Italy  20458439 | YES | NR | NA | NR | NR | YES  (based on prior literature) | NO | NO | YES | NO | NO |
| Ko  2011{Ko, 2011 26 /id}  Korea  21315223 | YES | NR | NA | NR | NR | NA  (no thresholds were used) | NO | NO | NO | NO | NO |
| Aradi  2010{Aradi, 2010 60 /id}  Hungary  20642320 | YES | NR | YES | NR | NR | YES  (based on literature for PRI VASP; ROC analyses for LAT) | NO | NO | NO | NO | NO |
| Woo  2010{Woo, 2010 61 /id}  Korea  20890076 | YES | NR | NA | NR | NR | YES  (based on prior literature for all assays) | NO | NO | NO | NO | NO |
| Madsen  2010{Madsen, 2010 79 /id}  Canada  20224050 | YES | NR | NA | NR | NR | YES  (cut-offs based on prior literature) | NO | NO | YES  (for LTA duplicate measurements were obtained and the mean used in analyses; the variance in repeat testing was also reported) | NO  (repeat measurements only for one of the tests of interest; details about reproducibility assessment not reported) | NO |
| Siller-Matula  2010{Siller-Matula, 2010 89 /id}  Austria  19943879 | YES | NR | NA | NR | NR | NO  (cut-offs were determined based on observed data, using ROC analysis) | NO | NO | NO  (however references were provided to previous investigations, some from the same investigators) | NO | NO |
| Cuisset  2010{Cuisset, 2010 93 /id}  France  20142119 | YES | NR | NA | NR | NR | YES  (main analyses used cut-offs obtained from prior literature; analyses with alternative thresholds were also presented) | NO | NO | NO  (references to previous investigations on reproducibility are provided) | NO | NO |
| Smit  2009{Smit, 2009 137 /id}  Netherlands  19200163 | YES | NR | NA | NR | NR | NO  (no explicit thresholds were used) | NO  (however, the authors commented that the iron-based assay could obtain measurement beyond the detection limit of other assays used in the study) | NO | YES  (duplicate measurements were performed in 111 samples for one of the assays) | NO | NO |
| Gremmel  2009{Gremmel, 2009 138 /id}  Austria  19190818 | YES | NR | NA | NR | NR | NO  (thresholds were determined based on the empirical distribution of the results in the study) | NO | NO | NO | NO | NO |
| Schafer  2008{Schafer, 2008 158 /id}  Germany  18841284 | YES | NR | NA | NR | NR | YES  (thresholds were based on prior literature) | NO | NO | NO  (measures of variability were obtained from a population not on clopidogrel treatment) | NO | NO |
| Shenkman  2008{Shenkman, 2008 166 /id}  Israel  18155752 | YES | NR | NA | NR | NR | YES  (cut-offs for the reference standard test were ) | NO | NO | NO | NO | NO |
| Lordkipanidze  2008{Lordkipanidze, 2008 170 /id}  Canada  18520610 | YES | NR | NA | NR | NR | NA  (no explicit thresholds were used) | NO | NO | NO | NO | NO |
| Lordkipanidze  2009{Lordkipanidze, 2009 108 /id}  Canada  19840560 | YES | NR | NA | NR | NR | NO  (thresholds were determined based on the observed distribution of measurements; positive tests were defined as those > mean + 2\*SD) | NO | NO | NO | NO | NO |
| Lordkipanidze  2009{Lordkipanidze, 2009 110 /id}  Canada  19419755 | YES | NR | NA | NR | NR | NO  (no thresholds were used in analyses relevant to analytic validity) | NO | NO | YES  (analyses of intra-assay variability were reported) | NO | NO |
| Collet  2008{Collet, 2008 160 /id}  France  18765393 | YES | NR | NA | NR | NR | YES  (based on prior literature) | NO | NO | NO | NO | NO |
| Von Beckerath  2010{Von, 2010 98 /id}  Germany  19823079 | YES | NR | NA | NR | NR | NO  (thresholds were determined based on the observed distribution of measurements) | NO | NO | NO | NO | NO |
| Varenhorst  2009{Varenhorst, 2009 18261 /id}  Sweden  19249429 | YES | NR | NA | NR | NR | NO  (thresholds were determined based on the observed distribution of measurements) | NO | NO | NO | NO | NO  (however, two laboratories participated in the study and the authors reported that flow cytometers were “synchronized”) |
| Lordkipanidze  2008{Lordkipanidze, 2008 18262 /id}  Canada  18826988 | YES | NR | NA | NR | NR | YES  (based on published guidelines) | NO | NO | NO | NO | NO |
| Jeong  2008{Jeong, 2008 18263 /id}  S. Korea  18617479 | NO | NR | NA | NR | NR | NO  (thresholds were determined based on the observed distribution of measurements) | NO | NO | NO | NO | NO |
| Kim  2010{Kim, 2010 18264 /id}  S. Korea  20449634 | YES | NR | NA | NR | NR | YES  (for some analyses thresholds were determined based on prior literature; analyses with alternative thresholds were also presented) | NO | NO | NO | NO | NO |
| Lordkipanidze  2009{Lordkipanidze, 2009 18265 /id}  Canada  19250657 | YES | NR | NA | NR | NR | YES  (based on prior literature) | NO | NO | NO | NO | NO |
| Pettersen  2011{Pettersen, 2011 18266 /id}  Norway  21426546 | YES | NR | NA | NR | NR | YES  (determined based on an independent group of patients receiving aspirin only) | NO | NO | NO | NO | NO |
| Sibbing  2008{Sibbing, 2008 18267 /id}  Germany  18217143 | YES | YES  (mentions the use of control samples for quality control) | NR | NR | NR | NO  (thresholds were determined based on the observed distribution of measurements) | NO | NO | YES  (assessed assay variability) | NO | NO |
| Gaglia  2011{Gaglia, 2011 18268 /id}  USA  21919956 | YWA | NR | NA | NR | NR | YES  (based on prior literature) | NO | NO | NO | NO | NO |
| McGlasson  2011{McGlasson, 2011 18269 /id}  USA  21799401 | YES | NR | NA | NR | NR | UNCLEAR  (criteria were developed locally by “in house method validations”) | NO | NO | NO | NO | NO |
| Park  2012{Park, 2012 18270 /id}  Korea  21942752 | YES | NR | NA | NR | NR | YES  (based on prior literature) | NO | NO | NO | NO | NO |
| Zhang  2012{Zhang, 2012 18271 /id}  Korea  22774770 | YES | NR | NA | NR | NR | YES  (based on prior literature) | NO | NO | NO | NO | NO |
| Tsantes  2012{Tsantes, 2012 18272 /id}  Greece  22646492 | YES | NR | NA | NR | NR | YES  (based on prior literature and manufacturer information) | NO | NO | YES | NO | NO |
| Liang  2012{Liang, 2012 18273 /id}  Canada  22797934 | YES | NR | NA | NR | NR | NA  (no cut-offs were used) | NO | NO | NO | NO | NO |
| Jang  2012{Jang, 2012 18275 /id}  Korea  22811359 | YES | NR | NA | NR | NR | YES  (based on prior literature or manufacturer information) | NO | NO | NO | NO | NO |

NA = not applicable; NR = not reported; PMID = PubMed identification number; ROC = receiver operating characteristic.