Appendix Table E8. Design characteristics of studies assessing the predictive ability of LTA in patients with ischemic heart disease

| **Author**  **Year**  **PMID**  **Country**  **Study Name** | **Study design** | **Multicenter (yes/no)** | **Recruitment method** | **Sampling population** | **Enroment period** | **Mean or median (state which follow up duration)** | **Setting** | **A Priori power analysis performed? (if yes, was accrual 80% of target or higher)** | **Funding** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Geisler, 2010{Geisler, 2010 54 /id}  20526607  Germany  NR | Prospective | NO | Consecutive | Patients with diabetes and symptomatic CAD undergoing PCI | March 2005-May 2008 | Total 30 days after PCI | Inpatient and then 30 day followup of outpatients | YES [NR] | NR |
| Cuisset, 2009{Cuisset, 2009 111 /id}  19801028  France  NR | prospective Cohort | No | Consecutive | NSTE ACS patients | NR | NR | CHU Timone inpatient | NR | non-industry (grants from the Assistance publique hôpitaux de Marseille, Marseille, France) |
| Frere, 2007{Frere, 2007 193 /id}  17938809  France  NR | Prospective observational | No | Selected patients with coronary stenting | Patients had undergone successful coronary stenting | March 2005-May 2006 | One-month follow up | Department of Cardiology inpatient | NR | NR |
| Hoshino, 2009{Hoshino, 2009 143 /id}  19106460  Japan  NR | Prospective observational | NO | NR | Patients undergoing percutaneous coronary intervention (PCI) for ischemic heart disease | NR | Max 30 days | followup after intervention | NR | Non-industry (Health and Labor Sciences Research Grant for Cardiovascular Research and a Grant from the Japan Cardiovascular Research Foundation.) |
| Breet, 2010{Breet, 2010 86 /id}  20179285  Netherlands  NR | prospective Cohort | No | Patients scheduled for PCI with stent implantation | Patients with PCI and stent implantation | Dec 2005- Dec 2007 | 1-year | Hospital inpatient | Yes.  80% | NR |
| Gurbel, 2010{Gurbel, 2010 84 /id}  20194878  10 study sites in North America and Europe  RESPOND | Prospective cohort derived from an crossover RCT | YES | Consecutive | Patients with CAD on aspirin therapy | May 19, 2008 - March 25, 2009 | NR (At least 28 days for completion of period 1 and period 2) | community (non–health care setting) | YES; Accrual >80% | Industry (AstraZeneca) |
| Kim, 2010{Kim, 2010 241 /id}  20449634  Korea  NR | prospective cohort | no | consecutively  enrolled | unselected patients treated  with coronary stenting for symptomatic coronary artery disease, including acute myocardial infarction (AMI) and chronic clopidogrel therapy | December 2007  to June 2009 | 6 months | Department of  Cardiology of the Gyeongsang National University hospital inpatient | NR | NR |
| Angiolillo, 2008{Angiolillo, 2008 180 /id}  18312754  USA  OPTIMUS | prospective Cohort | No | Patients underwent PCI and were treated with standard clopidogrel | Patients underwent PCI and were treated with standard clopidogrel | NR | 1 months | Hospital inpatient | Yes; Accrual>80% | NR |
| Blindt, 2007{Blindt, 2007 189 /id}  18064332  Germany  NR | prospective Cohort | No | Selected sample? | Patients with an elevated risk to develop ST acute MI within 48 hours undergoing emergency or elective PCI | NR | 6 months | Department of cardiology in University Hospital Aachen inpatient | NR | NR |
| Bliden, 2007{Bliden, 2007 202 /id}  17291930  USA  NR | prospective Cohort | no | Consecutive | Patients receiving clopidogrel | NR | 12 months | Hospital inpatient | With the sample size  calculation from SigmaStat software, it is estimated that the sample size required for 95% power with the alpha of 0.05 is approximately 100 patients. | Partly industry (NIH and Bayer) |
| Gori,  2008{Gori, 2008 151 /id}  19132241  Italy  RECLOSE | Prospective | NR but probably NO | Consecutive | RECLOSE patients who underwent DES implantation for whom complete AA- and collagen-induced platelet aggregation values were available. | July 2005 to February 2006 | Total 6 months | Outpatient followup of cohort at 1, 3, and 6 mo | YES [YES] | Nonindustry |
| Gurbel,  2010{Gurbel, 2010 68 /id}  20691842  USA  PREPARE POST-STENTING | Prospective observational study | NO | Consecutive | Patients undergoing percutaneous coronary intervention (PCI) | 2004 and 2005 | Max of 36 months | Follwoup after intervention | YES; Accrual>80% | Non-industry (Sinai Hospital, Baltimore & NIH grant R44-HL059753) |
| Matetzky,  2004{Matetzky, 2004 188 /id}  15184279  Israel  No | prospective | NR | Consecutive | STEMI patients | NR | total 6 months | Outpatient follow up | NO | NR |
| Angiolollo, 2007{Angiolillo, 2007 194 /id}  17936152  Spain  NR | prospective Cohort | No | Type 2 diabetes  mellitus patients with coronary artery disease (CAD) on  chronic treatment with dual antiplatelet therapy were eligible  for this study. | Type 2 diabetes  mellitus patients with coronary artery disease (CAD) on  chronic treatment with dual antiplatelet | Jan 2003 to Feb 2005 | One year | Hospital inpatient | NR | Partly industry |
| Aradi, 2008{Aradi, 2008 236 /id}  18388039  Hungary  NR | Prospective | NR | NR | Patients referred for PCI with stenting | NR | 10 mo | Inpatient and then outpatient after PCI, followed till 10 mo | NR | NR |
| Bellemain-Appaix, 2010{Bellemain-Appaix, 2010 87 /id}  20170822  France  ALBION (Assessment of the Best Loading Dose of Clopidogrel to Blunt Platelet Activation, Inflammation and Ongoing Necrosis) | Substudy of ALBION RCT | YES | Selected sample (Patients with platelet aggregation data from RCT) | Patients with ACS | NR | max: 1 day | Inpatient | NO | NR  [Industry funding for authors is reported] |
| Breet, 2011{Breet, 2011 15 /id}  21478385  The Netherlands  POPular | prospective Observational study | NR | Consecutive | Patients scheduled for PCI with stent implantation | NR | 1 year | Hospital inpatient | NR | NR |
| Breet, 2010{Breet, 2010 50 /id}  20695984  Netherlands  Substudy of a larger cohort (Breet 2010 PMID: 20179285) | prospective Cohort | No | Patients scheduled for PCI with stent implantation | Patients with PCI and stent implantation | Dec 2005- Dec 2007 | 1-year | Hospital inpatient | Yes.  The study was designed on the basis of the superiority principle to have 80% power to observe an incidence of the primary end point in patients exhibiting  high on-treatment platelet reactivity of 10% and 4% in patients without  high on-treatment platelet reactivity. | NR [Authors report no COI] |
| Buonamici, 2007{Buonamici, 2007 200 /id}  17572245  Italy  NR | prospective Cohort | No | Consecutive patients | Patients received successful drug eluting stent implantation | July 2005 to August 2006 | 6 months | Academic hospital inpatient | Yes.  To have a power of 0.80 to detect the hypotesized  effect size with a 1-sided p value <0.05, a sample size  of at least 800 was needed. | NR |
| Campo, 2007{Campo, 2007 197 /id}  17868803  Italy  NR | prospective Cohort | No | Patients undergoing PCI | Patients undergoing PCI | Nov 2005-may 2006 | Every 4 months | Hospital inpatient | No | NR |
| Cuisset, 2009  19736156  France  NR | Prospective observational study | NO | Consecutive | Patients admitted with a NSTE ACS for coronary angiography/PCI | NR | Total 30 days | followup after intevention | NO | non-inducstry (Assistance Publique Hôpitaux of Marseille ) |
| Cuisset, 2006{Cuisset, 2006 212 /id}  16371119  France  NR | Prospective | NO | Consecutive | Patients with clinical symptoms compatible with acute myocardial ischemia admitted for PCI and stenting | June-Dec 2004 | Total 1 mo | Outpatient after PCI | NR | NR |
| Cuisset, 2006{Cuisset, 2006 237 /id}  17010792  France  NR | Prospective; 2 arms of an RCT are separate cohorts | NO | RCT | Patients undergoing percutaneous coronary intervention (PCI) for NSTEMI ACS | June 2004 – Oct 2005 | Max 1 month | followup after intervention | NR | Non-industry  [Assistance Publique Hôpitaux de Marseille] |
| Cuisset, 2007{Cuisset, 2007 204 /id}  17264958  France  NR | prospective Cohort | No | Consecutive patients | NSTE ACS patients | May 2005-Feb 2006 | 24 hours after PCI | Hospital inpatient | No | NR |
| Geisler, 2008{Geisler, 2008 184 /id}  17949474  Germany  NR | Prospective | NO | Consecutive | Unselected adults undergoing coronary stenting for symptomatic CAD | March 2005-Dec. 2006 | Total 30 days | Inpatient for stenting, then follow up by phone 30 days after discharge | NO | Nonindustry only |
| Geisler, 2006{Geisler, 2006 210 /id}  17005534  Germany  NR | prospective Cohort | No | Consecutive Patients admitted for CAD | CAD patients | March to August 2006 | 3 months | Hospital inpatient | Yes.  With a probability of 80% that the study will detect a minimal  hazard ratio (HR) of 2.25% for the primary endpoint at a one-sided  5.0% significance level and a presumed low responder rate of up  to 10%, we estimated a sample size of 335 patients. | NR |
| Geisler, 2010{Geisler, 2010 101 /id}  19812059  Germany  NR | Prospective observational | NO | Consecutive | Patients with CAD & ACS for PCI | March 2005-March 2007 | max 3 months | followup after intervention | YES; Accrual>80% | non-industry (‘Deutsche Forschungsgemeinschaft’, ‘Sonderforschungsbereich Transregio TR-19’, and the Karl&Lore-Klein-Stiftung.) |
| Giusti, 2009{Giusti, 2009 134 /id}  19268736  Italy  RECLOSE study  (Low Responsiveness to Clopidogrel and Sirolimus- or Paclitaxel-Eluting Stent Thrombosis) | Prospective observational study of patients enrolled in the RECLOSE study in a single center | NO  (single center recruitment for this study) | Consecutive patients consenting to genetic study identified from the RECLOSE study population | Patients with ACS or CAD undergoing PCI with stenting | July 2005 to August 2006  [recruitment period of the RECLOSE study; information from pmid = 17572245] | 6 months  (unclear what metric; from the KM curves implied maximum FU) | In hospital (PCI) | NO | Non-industry only |
| Gori, 2008 {Gori, 2008 164 /id}  18718420  Italy  RECLOSE study  (Low Responsiveness to Clopidogrel and Sirolimus- or Paclitaxel-Eluting Stent Thrombosis) | Prospective cohort | NO | Consecutive | Patients with CAD & ACS treated with PCI and stenting | NR | 6 months | Followup after intervention | NR | NR |
| Gurbel, 2008{Gurbel, 2008 157 /id}  19012177  USA  None | Prospective | NO | Consecutive | patients undergoing nonemergent PCI | Jan. 29, 2004, to May 1, 2007 | 546 days (median) | Inpatient during PCI, then outpatient follow-up | YES (YES) | Non-industry only |
| Gurbel, 2004{Gurbel, 2004 220 /id}  15154601  USA  None | Prospective | NR | NR | Patients undergoing elective PCI | NR | Total 30 days | Inpatient with subsequent followup for 30 days as outpatient | NR | Non-industry only |
| Hochholzer, 2006{Hochholzer, 2006 208 /id}  17084243  Germany  EXCELSIOR | prospective Cohort | No | Patients undergoing elective coronary stent placement | Patients undergoing elective coronary stent placement | NR | 30 days | Hospital inpatient | Yes.  We intended to have a power of 0.80  to detect an effect size of 0.015 (e.g., 3-fold risk in the  fourth quartile) with a 2-sided p value <0.05. | NR |
| Htun, 2011{Htun, 2011 20 /id}  21273381  Germany  NR | prospective cohort | no | consecutive, unselected patients | patients underwent coronary stenting | NR | 365 days | university hospital inpatient | yes.With an estimated prevalence of  35%, a sample size of 1090 was calculated to  detect this difference of event rate with a statistical  power of90%at a two-sided alpha level of5%. | NR |
| L’Allier 2008{L'Allier, 2008 178 /id}  18342223  Canada  PREPAIR study | Randomized | NR | Consecutive | Patients with suspected or documented coronary artery disease admitted to our hospital for elective coronary angiography and PCI when appropriate | NR | Total 1 month | Inpatient and followup at 1 mo after discharge | YES (YES—80%) | Nonindustry only |
| Liu, 2011{Liu, 2011 12 /id}  21613806  China  None | Prospective | NO | Consecutive | Patients undergoing elective stenting | NR | Total 3 month | Inpatient and then 12 hr, 36 hr, 1 mo, and 3 mo after stenting (most as outpatient visit) | NO | All Industry |
| Muller, 2003{Muller, 2003 223 /id}  12719773  Germany  None | Prospective | NO | NR | patients with stable coronary artery disease  undergoing coronary angiography | NR | NR | Inpatient and then followup as outpatient | NO | Non-industry only |
| Muller, 2010{Muller, 2010 51 /id}  20728084  Germany  NR | Prospective observational study | NO | Consecutive | Patients undergoing percutaneous coronary intervention (PCI) for ACS and CAD | March 2005 to May 2008 | mean : 344 days | Followup after intervention | YES; Accrual>80% | Non-industry  [“Deutsche Forschungsgemeinschaft”, the “Sonderforschungsbereich Transregio TR-19”, the Karl&Lore-Klein-Stiftung and a personal grant “Atherothrombosis Grant” of the European Society of Cardiology (TG).] |
| Obradovic, 2009{Obradovic, 2009 123 /id}  19318922  Serbia  NR | prospective Cohort | No | Selective patients with PCI | PCI patients | NR | 24 h | Catheterization lab of the Military medical Academy inpatient | NR | NR |
| Saw, 2008{Saw, 2008 243 /id}  19038679  Canada  ELAPSE trial | Prospective | NO | NR | patients undergoing coronary stenting who were on aspirin for 5 days but not previously on clopidogrel | Sept. 2005-Aug. 2006 | Total 1 yr | Inpatient for PCI, then outpatient visits for 1 yr of follow-up | YES [YES] | Non-industry only |
| Trenk, 2008{Trenk, 2008 171 /id}  18482659  Germany  EXCELSIOR (Impact of Extent of Clopidogrel- Induced Platelet Inhibition During Elective Stent Implantation  on Clinical Event Rate) | Observational study | NO | Substudy of the EXCELSIOR prospective study | Patients undergoing percutaneous coronary intervention (PCI), including those who have undergone PCI with stent implantation, and those who have undergone coronary artery bypass grafting surgery | NR | 30 day follow up for all patients, and 12 month follow up for 795 patients (99.1%) | followup after intervention | YES; Accrual 100%; reported in Hochholzer 2006 17084243 | non-industry university Funding (Herz-Zentrum, Bad Krozingen, Germany) |
| Wang, 2010{Wang, 2010 37 /id}  21171668  China  None | Prospective | NO | Selected for the same type of DES | patients who underwent selective PCI with DES | January 2006 to January 2008 | Total 1 year after discharge | Inpatient and then outpatient followup | NR | No funding |
| Wang, 2009{Wang, 2009 130 /id}  19041120  China  NR | prospective Cohort | No | Patients for elective coronary intervention in symptomatic stable coronary artery disease (CAD) | Patients for elective coronary intervention in symptomatic stable coronary artery disease (CAD) | Oct 2006- March 2007 | One year | Hospital inpatient | Yes.  We estimated a sample size of 373 patients would provide 80%  power to detect an 70% relative difference in the rate of events using a  one-sided 0.05 significance level, with a presumed event rate of 5.0%  in normal responders and a resistance rate of up to 15%. | NR |
| Yong, 2009{Yong, 2009 146 /id}  19081397  Australia  Platelet Responsiveness to Aspirin and Clopidogrel and  Troponin Increment after Coronary intervention in Acute  coronary Lesions (PRACTICAL) Trial | Pooled data from 2 arms of an RCT | YES | Consecutive | Patients undergoing percutaneous coronary intervention (PCI) for ACS | January  2004 and November 2005 | Max 6 months | Followup after intervention | YES (for RCTs main outcome) [Accrual < 80%] | Industry |
| Gurbel,  2003{Gurbel, 2003 224 /id}  12714161  USA  No | Prospective | NO | NR | Patients undergoing PCI with stenting | NR | NR | Inpatient and then outpatient visit at 30 days | NR | All Industry |
| Gurbel, 2005{Gurbel, 2005 215 /id}  16286165  USA  PREPARE POST-STENTING | Prospective, observational | NO | Consecutive patients | Patients undergoing percutaneous coronary intervention (PCI) for ACS | NR | NR | Hospital, then outpatient | NO | NR |
| Gurbel, 2003{Gurbel, 2003 222 /id}  12796140  USA  NR | Prospective | No | Consecutive | Patients undergoing percutaneous coronary intervention (PCI) with stenting | NR | 30 days | Hospital, then outpatient | NO | Industry (Sinai Center for Thrombosis Research and Platelet and Thrombosis Research, LLC) |
| Kalantzi, 2012{Kalantzi, 2012 18174 /id} 21806493  Greece  NR | prospective | no | NR | patients with ACS with or without ST elevation | NR | 30 days | single center | NR | NR |
| Angiolillo, 2011 {Angiolillo, 2011 18175 /id}  Italy  NR | NR | NR | NR | patients with type 2 DM and stable coronary artery  disease | Nov 2003-March 2007 | 24 months | single center | yes. 89% | NR |
| Park, 2011 {Park, 2011 1 /id} 22152948  Korea  NR | NR | no | consecutive | patients undergone PCI with at least 1 DES for stable angina or ischemia, or non-ST-segment elevation ACS | March 2006-Dec 2009 | 2.2 years | Asan Medical Center (Seoul, Korea) | yes, 90% | NR |
| Gurbel, 2012{Gurbel, 2012 18183 /id} 21862113  USA  NR | Prospective | No | NR | Stable CAD patients and CAD patients undergoing elective stenting | NR | 24 hours | Hospital, Sinai Hospital of Baltimore | NR | Industry (Sanofi-Aventis U.S. Bridgewater, NJ |
| Saad, 2012{Saad, 2012 18187 /id}  22146578  Egypt  NR | Prospective | No | NR | CAD patients undergoing PCI with stenting | NR | 6 months | followup after intervention | NR | None reported |
| Aradi {Aradi, 2012 18248 /id}  21902692  Hungary  NR | yes | no | selected patients | stable angina patients | Feb 2008 and Sep 2009 | 12 months | inpatient then followup | yes (80%) | non-industry |
| Gaglia, 2012{Gaglia, 2011 18244 /id}  21919956  USA  NR | prospective | no | NR | PCI-STENT for ACS and CAD | October 2009 to September 2010 | 3 days | inpatient | no | NR |
| Marcucci, 2012{Marcucci, 2012 18217 /id}  22390861  Italy  NR | Prospective observational | NO | NR | Adults undergoing PCI and stenting for ACS | NR | 12 mo | Inpatient | No (NA) | Nonindustry |
| Ge, 2012{Ge, 2012 18184 /id}  21602258  China  NR | Prospective cohott; unclear if prospective | No | NR | Adults ≥30 years, undergoing PCI for DES implantation | NR | Up to 6 mo | Single academic cardiology department | NR | “No support” was received |

ACS = acute coronary syndrome; AMI = acute myocardial infarction; CAD = coronary artery disease; MI = myocardial infarction; NSTE = non-ST-elevation; PAD = peripheral artery disease; PCI = percutaneous coronary intervention; STEMI = ST-elevation MI; DES=drug eluting stent; CABG=coronary artery bypass grafting; AA= arachidonic acid; SD=standard deviation; RCT=randomized controlled trial; NR=not reported;