

## Supplemental material

### Supplemental Table1

Study	Trial number	n	assay	cutoff	rule-out% NPV (95%CI)	Reference
APACE	NCT00470587	1811	hs-cTnl Abbott ARCHITEC T Beckmann Coulter AccucTnl Abbott AxsymcTnl ADV	5.2 ng/L and an absolute change within 1 hour of < 1.9 ng/L	50% 99.6% (98.4%-100%)	Rubini Gimenez
ADAPT	ACTRN12611001069943	1,975	Abbott ARCHITEC T cTnl	cTnl < institutional cutoff 0+2 h, ECG and TIMI=0	20% low risk 99.7 (98.6–100.0)	Than M, JACC
High STEACS	NCT01852123	6304	hs-cTnl Abbott ARCHITEC T	5 ng/L	61% 99.6 (99.3-99.8)	Shah
BACC	NCT02355457	1040	hs-cTnl Abbott ARCHITEC T	6 ng/L a delta of 12 ng/L at 1 h	41% 99.8% (95% CI, 98.6%-100.0%)	Neumann
UTROPIA	NCT02060760	1631	hs-cTnl Abbott ARCHITEC T	Serial hscTnl measurements <99th percentile at 0 and 3 h and a normal ECG	32.8%, NPV and sensitivity of 100%	Sandoval

Supplemental Table 2

<b>Study</b>	<b>N=</b>	<b>Algorithm</b>	<b>Assay</b>	<b>ECG</b>	<b>Risk assessment</b>
<b>APACE validation</b>	1320	0/1 h	hsTnT	yes	clinical
<b>TRAPID</b>	1282	0/1 h	hsTnT	yes	clinical
<b>Rubini-Gimenez</b>	1811	0/1 h	hsTnI	yes	clinical
<b>Jaeger</b>	1500	0/1 h	hsTnI (Siemens Vista)	yes	clinical
<b>BACC</b>	1040	0/1 h	hsTnI	yes	clinical
<b>Mohktari</b>	1038	0/1 h	hsTnT	yes	clinical
<b>FASTEST</b>	605/592	0/2 h	hsTnI (Vidas)	yes	clinical
<b>ADAPT</b>	1635	0/2 h	hsTnI	yes	TIMI score $\leq 1$
<b>BIC-8</b>	882	Single/adm	cTnT/hsTnT	yes	GRACE score < 140
<b>TRUST</b>	960	Single/adm	hsTnI	yes	Mod. Goldman score $\leq 1$

Supplemental Table 2. Overview on the need and extent of additional assessments following fast diagnostic algorithms

#### **Additional references for supplemental material**

1. Rubini Gimenez M, Twerenbold R, Jaeger C, et al. One-hour rule-in and rule-out of acute myocardial infarction using high-sensitivity cardiac troponin I. *Am J Med.* 2015;128:861-870.e4.

2. Than M, Cullen L, Aldous S, et al. 2-Hour accelerated diagnostic protocol to assess patients with chest pain symptoms using contemporary troponins as the only biomarker: the ADAPT trial. *J Am Coll Cardiol.* 2012;59:2091-8.
3. Shah AS, Anand A, Sandoval Y, et al.; High-STEACS investigators. High-sensitivity cardiac troponin I at presentation in patients with suspected acute coronary syndrome: a cohort study. *Lancet.* 2015;386:2481-8.
4. Neumann JT, Sørensen NA, Schwemer T, et al.. Diagnosis of Myocardial Infarction Using a High-Sensitivity Troponin I 1-Hour Algorithm. *JAMA Cardiol.* 2016;1:397-404.
5. Sandoval Y, Smith SW, Thordsen SE, et al. Diagnostic Performance of High Sensitivity Compared with Contemporary Cardiac Troponin I for the Diagnosis of Acute Myocardial Infarction. *Clin Chem.* 2017;63:1594-1604.