**Appendix G. Troponin Assays for Background Reference**

| **Troponin assay****(cTnI, cTnT, hscTnI, hsCTnT)** | **Manufacturer** | **Assay name** | **Assay Generation** | **CV (mcg/L)** | **99th percentile (mcg/L)** | **Reference population for 99th%tile** | **Source reference** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| cTnI | Abbot Laboratories | ADV AxSYM cTnI Immunoassay | NR | 0.4 | 0.04 | NR | Storti S, Prontera C, Parri MS, et al. Evaluation of the analytical performance of the advanced method for cardiac troponin I for the AxSYM platform: comparison with the old method and the Access system. Clin Chem Lab Med 2006;44(8):1022-29 PMID: 16879072 |
| cTnI | Abbot Laboratories | Architect ci8200 | 2nd | 0.032 | 0.012 | NR | Tate JR, Ferguson W, Bais R, et al. The determination of the 99th centile level for troponin assays in an Australian reference population. Ann Clin BIochem. 2008;45(Pt 3):275-88 PMID:18482916 |
| cTnI | Abbot Laboratories | Architect STAT | NR | 0.03 | 0.012 | N: 480Age: 16 to 82 | Lam Q, Black M, Youdell O, et al. Performance evaluation and subsequent clinical experience with the Abbott Automated Architect STAT Troponin-I assay. Clin CHem. 2006;52(2):298-300 PMID: 16449210 |
| cTnI | Abbot Laboratories | AxSYM | NR | 0.8 | 0.5 | NR | Apple FS, Quist HE, Doyle PJ, et al. Plasma 99th percentile reference limits for cardiac troponin and creatine kinase MB mass for use with European Society of Cardiology/American College of Cardiology consensus recommendations. Clin Chem. 2003;49(8):1331-6 |
| cTnI | Astra | Cardiac STATus Troponin I Rapid Test |  |  |  |  | Unable to find single source providing CV in mcg/L and 99th percentile for same reference group. |
| cTnI | Baxter  | Stratus |  |  |  |  | Unable to find single source providing CV in mcg/L and 99th percentile for same reference group. |
| cTnI | Bayer | ACS: 180 | NR | 0.37 | 0.1 | Eight serum pool samples (details NR) | Panteghini M, Pagani F, Yeo KT, et al. Evaluation of imprecision for cardiac troponin assays at low-range concentration. Clin Chem. 2004;50(2):327-32 PMID: 14656904 |
| cTnI | Bayer | ADVIA Centaur | NR | 0.35 | 0.1 | NR | Apple FS, Quist HE, Doyle PJ, et al. Plasma 99th percentile reference limits for cardiac troponin and creatine kinase MB mass for use with European Society of Cardiology/American College of Cardiology consensus recommendations. Clin Chem. 2003;49(8):1331-6 |
| cTnI | Bayer | Immuno1 | NR | 0.34 | 0.1 | Eight serum pool samples (details NR) | Panteghini M, Pagani F, Yeo KT, et al. Evaluation of imprecision for cardiac troponin assays at low-range concentration. Clin Chem. 2004;50(2):327-32 PMID: 14656904 |
| hscTnI | Bayer | Advia Cenatur (Ultra) | NR | 0.33 | 0.07 | NR | Foohey L, Neighbor S, Buchmelter T, et al. Troponin clinical applications. Bayer Healthcare Diagnostics Division. 2006 (http://www.medical.siemens.com/siemens/en\_GLOBAL/gg\_diag\_FBAs/files/brochures/TnI\_Assay/tni\_wp2.pdf) |
| cTnI | Beckman Coulter | Access Acu | NR | 0.06 | 0.04  | NR | IFCC Troponin tables |
| cTnI | Beckman Coulter | AccuTnI | NR | 0.06 | 0.04 | NR | Morrow DA, Rifai N, Sabatine MS, et al. Evaluation of the Accu TnI cardiac troponin I assay for risk assessment in acute coronary syndromes. Clin Chem. 2003;49(8):1396-8 PMID: 12881457 |
| cTnI | Beckman Coulter | Chemiluminescent Immunoenzymatic Assay |  |  |  |  | “Chemiluminescent Immunoenzymatic Assay” is too broad of a term, need more specific assay name. |
| cTnI | Bio-Merieux | Vidas | NR | 0.11 | 0.01 | N: 747Age: 20 to 81 | IFCC Troponin tables  |
| cTnI | BioSite Diagnostics | Triage Cardiac Panel | NR | 0.05 | 0.05 | NR | http://emj.bmj.com/content/suppl/2012/03/21/emermed-2011-200667.DC1/emermed-2011-200667-s6.pdf |
| hscTnI | Boehringer Mannheim (company bought by Roche) | Elecsys | NR | 0.005 | 0.014 | NR | Hoeller R, Rubini Gimenez M, Reichlin T, et al. Normal presenting levels of high-sensitivity troponin and myocardial infarction. Heart. 2013: Epub ahead of print PMID: 23604180 |
| cTnT | Boehringer Mannheim | Elecsys | 3 | 0.035 | 0.01 | NR | Fesmire FM, Decker WW, Diercks DB, et al. Clinical policy: critical issues in the evaluation and management of adult patients with non-ST-segment elevation acute coronary syndromes. Ann Emerg Med. 2006;48(30:270-301 PMID: 16934648 |
| cTnT | Boehringer Mannheim | Cardiac Reader |  |  |  |  | “Cardiac Reader” is too broad of a term, need more specific assay name. |
| cTnT | Boehringer Mannheim | ELISA | 2 | 0.01 | 0.1 | N: 323, with suspected AMI | Muller-Bardoff M, Hallermayer K, Schroder A, et al. Improved troponin T ELISA specific for cardiac troponin T isoform: assay development and analytical and clinical validation. Clin Chem. 1997;43(3):458-66 PMID: 9068589 |
| cTnT | Boehringer Mannheim | TropT-sensitive Rapid Test |  |  |  |  | Unable to find single source providing CV in mcg/L and 99th percentile for same reference group. |
| cTnT | Boehringer Mannheim | Enzymun |  |  |  |  | Unable to find single source providing CV in mcg/L and 99th percentile for same reference group. |
| cTnT | Boehringer Mannheim | TROP TRA-Rapid Beside Assay |  |  |  |  | Unable to find single source providing CV in mcg/L and 99th percentile for same reference group. |
| cTnI | Dade Behring | Opus | NR | 0.9 | 0.1 | Eight serum pool samples (details NR) | Panteghini M, Pagani F, Yeo KT, et al. Evaluation of imprecision for cardiac troponin assays at low-range concentration. Clin Chem. 2004;50(2):327-32 PMID: 14656904 |
| cTnI | Dade Behring | OPUS Plus | 1 | 0.3 | 0.1 | NR | Fesmire FM, Decker WW, Diercks DB, et al. Clinical policy: critical issues in the evaluation and management of adult patients with non-ST-segment elevation acute coronary syndromes. Ann Emerg Med. 2006;48(30:270-301 PMID: 16934648 |
| cTnI | Dade Behring | Opus Magnum Analyzer | NR | 3.0 (12% CV) | 0.5 | NR | Kontos MC, Shah R, Fritz LM, et al. Implication of different cardiac troponin I levels for clinical outcomes and prognosis of acute chest pain patients. J AM Coll Cardiol. 2004;43(6):958-65 PMID: 15028350 |
| cTnI | Dade Behring | Stratus | NR | 0.1 | 0.07 | Eight serum pool samples (details NR) | Panteghini M, Pagani F, Yeo KT, et al. Evaluation of imprecision for cardiac troponin assays at low-range concentration. Clin Chem. 2004;50(2):327-32 PMID: 14656904 |
| cTnI | Dade Behring | Stratus-II Enzyme Immunoassay | NR | 0.6 | <0.35 (97.5 percentile, 99th% NR) | NR | Boriani G, Biffi M, Cervi V, et al. Evaluation of myocardial injury following repeated internal atrial shocks by monitoring serum cardiac troponin I levels. Chest. 2000;118(2):342-7 PMID: 10936122 |
| cTnI | Diagnostic Product Corp | Immulite | 1st | 0.6 | 0.2 | NR | Fesmire FM, Decker WW, Diercks DB, et al. Clinical policy: critical issues in the evaluation and management of adult patients with non-ST-segment elevation acute coronary syndromes. Ann Emerg Med. 2006;48(30:270-301 PMID: 16934648 |
| cTnI | Johnson and Johnson | Vitros ECi | 1st | 0.12 | 0.08 | NR | Fesmire FM, Decker WW, Diercks DB, et al. Clinical policy: critical issues in the evaluation and management of adult patients with non-ST-segment elevation acute coronary syndromes. Ann Emerg Med. 2006;48(30:270-301 PMID: 16934648 |
| cTnI | Ortho Clinical Diagnostics | Vitros |  |  |  |  | Search for “Vitros” brings up every assay in the Vitros assay series. |
| hscTnI | Ortho Clinical Diagnostics | Vitro ES | NR | 0.034  | 0.034  | NR | IFCC Troponin tables (from Erin) |
| cTnT | Roche | Cardiac-ELISA ES300 | 2nd | 0.06 | 0.01 | N: 750Age: 58 to 78 | Jernberg T, Venge P, Lindahl B. Comparison between second and third generation troponin T assay in patients with symptoms suggestive of an acute coronary syndrome but without ST segment elevation. Cardiology. 2003;100(1):29-35 PMID: 12975543 |
| cTnT | Roche | Immunochemical test |  |  |  |  | “Immunochemical test” is not a specific assay, refers to broad range of assay types that use immunochemical technology. |
| cTnT | Roche | ECLIA (electrochemiluminescence immunoassay, used in Elecsys) | NR | 0.013 | 0.014 | N: 294, with chest pain and suspected AMI | Roche Diagnostics GmbH. Troponin T hs instruction insert for Elecsys and Cobas analyzers (05199620001V4 English). REF05092744 190;2011 – 02, V4:1 – 5. |
| cTnT | Roche | ECLusys |  |  |  |  | Unable to find single source providing CV in mcg/L and 99th percentile for same reference group. |
| cTnT | Roche | Enzymun Troponin T – ES700 |  |  |  |  | Unable to find single source providing CV in mcg/L and 99th percentile for same reference group. |
| cTnT | Roche | Modular Analyzer |  |  |  |  | Unable to find single source providing CV in mcg/L and 99th percentile for same reference group. |
| cTnT | Roche | Trop T |  |  |  |  | Unable to find single source providing CV in mcg/L and 99th percentile for same reference group. |
| cTnI | Siemens | Dimensional RxL CTNI | NR | 0.14 | 0.07  | N: 342Age: 18 to 83 | IFCC Troponin tables (from Erin) |
| cTnI | Siemens | Lithium-Heparin Plasma |  |  |  |  | Unable to find single source providing CV in mcg/L and 99th percentile for same reference group. |
| cTnI | Siemens  | Advia Centaur | NR | 0.4 | 0.4 | NR | Thygesen K, Mair J, Giannitsis E, et al. How to use high-sensitivity cardiac troponins in acute cardiac care. Eur Heart J. 2012;33(18):2252-7 PMID: 22723599 |
| cTnI | Siemens | Heterogeneous Immunoassay |  |  |  |  | “Heterogeneous Immunoassay” is too broad of a term, need more specific assay name. |
| cTnI | Siemens | Immulite 1000 Troponin I Kit | NR | 0.22 | 0.19 | N: 300 | IFCC Troponin tables (from Erin) |
| hscTnI | Siemens  | Advia Centaur | NR | 0.03 | 0.04 | N: 838, patients with chest pain and non-diagnostic electrocardiogram  | Collinson PO, Gaze D, Thokala P, et al. What is the diagnostic accuracy of highly sensitive troponin assays in the emergency room population. Clin Chem. 2012:58(10):A4-A5 (abstract only) |
| hscTnI | Siemens | Dimension Vista 1500 | NR | 0.003 | 0.009 | NR | Hoeller R, Rubini Gimenez M, Reichlin T, et al. Normal presenting levels of high-sensitivity troponin and myocardial infarction. Heart. 2013: Epub ahead of print PMID: 23604180 |
| cTnI | Tosoh | AIA-600II | 2nd | 0.06 | <0.06 | NR | Apple FS, Quist HE, Doyle PJ, et al. Plasma 99th percentile reference limits for cardiac troponin and creatine kinase MB mass for use with European Society of Cardiology/American College of Cardiology consensus recommendations. Clin Chem. 2003;49(8):1331-6 |
| cTnI | Tosoh | AIA | 2 | 0.06 | 0.06 | NR | Fesmire FM, Decker WW, Diercks DB, et al. Clinical policy: critical issues in the evaluation and management of adult patients with non-ST-segment elevation acute coronary syndromes. Ann Emerg Med. 2006;48(30:270-301 PMID: 16934648 |
| cTnI | Tosoh | AIA200 |  |  |  |  | Unable to find single source providing CV in mcg/L and 99th percentile for same reference group. |