Fred S Apple

List of Publications by Year
in descending order

117 papers	8,085 citations	53794 45 h-index	48315 88 g-index
120 all docs	120 docs citations	120 times ranked	6548 citing authors

#	Article	IF	Citations
1	Analytical Characteristics of High-Sensitivity Cardiac Troponin Assays. Clinical Chemistry, 2012, 58, 54-61.	3.2	730
2	Predictive Value of Cardiac Troponin I and T for Subsequent Death in End-Stage Renal Disease. Circulation, 2002, 106, 2941-2945.	1.6	487
3	High-sensitivity cardiac troponin I at presentation in patients with suspected acute coronary syndrome: a cohort study. Lancet, The, 2015, 386, 2481-2488.	13.7	422
4	Future Biomarkers for Detection of Ischemia and Risk Stratification in Acute Coronary Syndrome. Clinical Chemistry, 2005, 51, 810-824.	3.2	385
5	High sensitivity cardiac troponin and the under-diagnosis of myocardial infarction in women: prospective cohort study. BMJ, The, 2015, 350, g7873.	6.0	338
6	Clinical Laboratory Practice Recommendations for the Use of Cardiac Troponin in Acute Coronary Syndrome: Expert Opinion from the Academy of the American Association for Clinical Chemistry and the Task Force on Clinical Applications of Cardiac Bio-Markers of the International Federation of Clinical Chemistry and Laboratory Medicine. Clinical Chemistry, 2018, 64, 645-655.	3.2	327
7	Cardiac Troponin Assays: Guide to Understanding Analytical Characteristics and Their Impact on Clinical Care. Clinical Chemistry, 2017, 63, 73-81.	3.2	277
8	High-sensitivity troponin in the evaluation of patients with suspected acute coronary syndrome: a stepped-wedge, cluster-randomised controlled trial. Lancet, The, 2018, 392, 919-928.	13.7	263
9	Cardiac troponin I, cardiac troponin T, and creatine kinase MB in dialysis patients without ischemic heart disease: evidence of cardiac troponin T expression in skeletal muscle. Clinical Chemistry, 1997, 43, 976-982.	3.2	211
10	National Academy of Clinical Biochemistry and IFCC Committee for Standardization of Markers of Cardiac Damage Laboratory Medicine Practice Guidelines: Analytical Issues for Biochemical Markers of Acute Coronary Syndromes. Circulation, 2007, 115, e352-5.	1.6	211
11	Multi-Biomarker Risk Stratification of N-Terminal Pro-B-Type Natriuretic Peptide, High-Sensitivity C-Reactive Protein, and Cardiac Troponin T and I in End-Stage Renal Disease for All-Cause Death. Clinical Chemistry, 2004, 50, 2279-2285.	3.2	200
12	Association of High-Sensitivity Cardiac Troponin I Concentration With Cardiac Outcomes in Patients With Suspected Acute Coronary Syndrome. JAMA - Journal of the American Medical Association, 2017, 318, 1913.	7.4	188
13	Quality Specifications for B-Type Natriuretic Peptide Assays. Clinical Chemistry, 2005, 51, 486-493.	3.2	181
14	Copeptin Helps in the Early Detection of Patients With Acute Myocardial Infarction. Journal of the American College of Cardiology, 2013, 62, 150-160.	2.8	153
15	Use of the Centaur TnI-Ultra Assay for Detection of Myocardial Infarction and Adverse Events in Patients Presenting With Symptoms Suggestive of Acute Coronary Syndrome. Clinical Chemistry, 2008, 54, 723-728.	3.2	149
16	Release Characteristics of Cardiac Biomarkers and Ischemia-modified Albumin as Measured by the Albumin Cobalt-binding Test after a Marathon Race. Clinical Chemistry, 2002, 48, 1097-1100.	3.2	145
17	Myocardial Infarction Redefined: Role of Cardiac Troponin Testing. Clinical Chemistry, 2001, 47, 377-379.	3.2	141
18	Machine Learning to Predict the Likelihood of Acute Myocardial Infarction. Circulation, 2019, 140, 899-909.	1.6	128

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19	RNA Expression of Cardiac Troponin T Isoforms in Diseased Human Skeletal Muscle. Clinical Chemistry, 1999, 45, 2129-2135.	3.2	125
20	High-Sensitivity Cardiac Troponin and the Universal Definition of Myocardial Infarction. Circulation, 2020, 141, 161-171.	1.6	124
21	Propofol-associated Rhabdomyolysis with Cardiac Involvement in Adults: Chemical and Anatomic Findings. Clinical Chemistry, 2000, 46, 577-581.	3.2	109
22	Multicenter Evaluation of an Automated Assay for Troponin I. Clinical Chemistry, 2002, 48, 869-876.	3.2	99
23	Effect of sprint cycle training on activities of antioxidant enzymes in human skeletal muscle. Journal of Applied Physiology, 1996, 81, 1484-1487.	2.5	98
24	Type 1 and 2 Myocardial Infarction and Myocardial Injury: Clinical Transition to High-Sensitivity Cardiac Troponin I. American Journal of Medicine, 2017, 130, 1431-1439.e4.	1.5	95
25	Patient selection for high sensitivity cardiac troponin testing and diagnosis of myocardial infarction: prospective cohort study. BMJ: British Medical Journal, 2017, 359, j4788.	2.3	92
26	Multicenter Clinical and Analytical Evaluation of the AxSYM Troponin-I Immunoassay to Assist in the Diagnosis of Myocardial Infarction. Clinical Chemistry, 1999, 45, 206-212.	3.2	89
27	Multiple Biomarker Use for Detection of Adverse Events in Patients Presenting with Symptoms Suggestive of Acute Coronary Syndrome. Clinical Chemistry, 2007, 53, 874-881.	3.2	87
28	Cardiac troponin changes to distinguish type 1 and type 2 myocardial infarction and 180-day mortality risk. European Heart Journal: Acute Cardiovascular Care, 2014, 3, 317-325.	1.0	84
29	High-sensitivity cardiac troponin assays for cardiovascular risk stratification in the general population. European Heart Journal, 2020, 41, 4050-4056.	2.2	83
30	Sex-Specific 99th Percentile Upper Reference Limits for High Sensitivity Cardiac Troponin Assays Derived Using a Universal Sample Bank. Clinical Chemistry, 2020, 66, 434-444.	3.2	80
31	High-Sensitivity Cardiac Troponin on Presentation to Rule Out Myocardial Infarction: A Stepped-Wedge Cluster Randomized Controlled Trial. Circulation, 2021, 143, 2214-2224.	1.6	80
32	National Academy of Clinical Biochemistry and IFCC Committee for Standardization of Markers of Cardiac Damage Laboratory Medicine Practice Guidelines: Analytical Issues for Biomarkers of Heart Failure. Circulation, 2007, 116, e95-8.	1.6	79
33	Myocardial Infarction Risk Stratification With a Single Measurement of High-Sensitivity Troponin I. Journal of the American College of Cardiology, 2019, 74, 271-282.	2.8	75
34	Counterpoint: Standardization of Cardiac Troponin I Assays Will Not Occur in My Lifetime. Clinical Chemistry, 2012, 58, 169-171.	3.2	73
35	Decreased patient charges following implementation of point-of-care cardiac troponin monitoring in acute coronary syndrome patients in a community hospital cardiology unit. Clinica Chimica Acta, 2006, 370, 191-195.	1.1	63
36	The applied statistical approach highly influences the 99th percentile of cardiac troponin I. Clinical Biochemistry, 2016, 49, 1109-1112.	1.9	62

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37	Diagnosis of Type 1 and Type 2 Myocardial Infarction Using a High-Sensitivity Cardiac Troponin I Assay with Sex-Specific 99th Percentiles Based on the Third Universal Definition of Myocardial Infarction Classification System. Clinical Chemistry, 2015, 61, 657-663.	3.2	60
38	Assessment of the Multiple-Biomarker Approach for Diagnosis of Myocardial Infarction in Patients Presenting with Symptoms Suggestive of Acute Coronary Syndrome. Clinical Chemistry, 2009, 55, 93-100.	3.2	58
39	Specificity of B-Type Natriuretic Peptide Assays: Cross-Reactivity with Different BNP, NT-proBNP, and proBNP Peptides. Clinical Chemistry, 2017, 63, 351-358.	3.2	58
40	Biochemical Markers of Cardiac Injury in Normal, Surviving Septic, or Nonsurviving Septic Neonatal Foals. Journal of Veterinary Internal Medicine, 2005, 19, 577-580.	1.6	56
41	Single High-Sensitivity Cardiac Troponin I to Rule Out Acute Myocardial Infarction. American Journal of Medicine, 2017, 130, 1076-1083.e1.	1.5	54
42	Evidence-based Implementation of Free Phenytoin Therapeutic Drug Monitoring. Clinical Chemistry, 2000, 46, 1132-1135.	3.2	53
43	Increased Cardiac Troponin I As Measured by a High-Sensitivity Assay Is Associated with High Odds of Cardiovascular Death: The Minnesota Heart Survey. Clinical Chemistry, 2012, 58, 930-935.	3.2	53
44	Liver and Blood Postmortem Tricyclic Antidepressant Concentrations. American Journal of Clinical Pathology, 1988, 89, 794-796.	0.7	52
45	Analysis of the Albumin Cobalt Binding (ACBâ„¢) Test as an Adjunct to Cardiac Troponin I for the Early Detection of Acute Myocardial Infarction. Cardiovascular Toxicology, 2001, 1, 147-152.	2.7	49
46	Cardiac Troponin Thresholds and Kinetics to Differentiate Myocardial Injury and Myocardial Infarction. Circulation, 2021, 144, 528-538.	1.6	39
47	Creatine kinase isoforms following isometric exercise. Muscle and Nerve, 1987, 10, 41-44.	2.2	38
48	Prevention of Analytical False-Positive Increases of Cardiac Troponin I on the Stratus II Analyzer. Clinical Chemistry, 1997, 43, 860-861.	3.2	37
49	Preliminary Evaluation of the Vitros ECi Cardiac Troponin I Assay. Clinical Chemistry, 2000, 46, 560-576.	3.2	36
50	Diagnostic Performance of High Sensitivity Compared with Contemporary Cardiac Troponin I for the Diagnosis of Acute Myocardial Infarction. Clinical Chemistry, 2017, 63, 1594-1604.	3.2	36
51	Release characteristics of cardiac biomarkers and ischemia-modified albumin as measured by the albumin cobalt-binding test after a marathon race. Clinical Chemistry, 2002, 48, 1097-100.	3.2	36
52	Cardiac troponin and natriuretic peptide analytical interferences from hemolysis and biotin: educational aids from the IFCC Committee on Cardiac Biomarkers (IFCC C-CB). Clinical Chemistry and Laboratory Medicine, 2019, 57, 633-640.	2.3	33
53	Delta changes for optimizing clinical specificity and 60-day risk of adverse events in patients presenting with symptoms suggestive of acute coronary syndrome utilizing the ADVIA Centaur TnI-Ultra assay. Clinical Biochemistry, 2012, 45, 711-713.	1.9	31
54	Biomarkers Enhance Discrimination and Prognosis of Type 2 Myocardial Infarction. Circulation, 2020, 142, 1532-1544.	1.6	31

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55	Incidence of Undetectable, Measurable, and Increased Cardiac Troponin I Concentrations Above the 99th Percentile Using a High-Sensitivity vs a Contemporary Assay in Patients Presenting to the Emergency Department. Clinical Chemistry, 2016, 62, 1115-1119.	3.2	29
56	Sex-specific 99th percentiles derived from the AACC Universal Sample Bank for the Roche Gen 5 cTnT assay: Comorbidities and statistical methods influence derivation of reference limits. Clinical Biochemistry, 2017, 50, 1073-1077.	1.9	29
57	Analytical Considerations in Deriving 99th Percentile Upper Reference Limits for High-Sensitivity Cardiac Troponin Assays: Educational Recommendations from the IFCC Committee on Clinical Application of Cardiac Bio-Markers. Clinical Chemistry, 2022, 68, 1022-1030.	3.2	26
58	Assessment of the Diagnostic Accuracy of the TDx-FLM II to Predict Fetal Lung Maturity. Clinical Chemistry, 2002, 48, 761-765.	3.2	25
59	National Academy of Clinical Biochemistry and IFCC Committee for Standardization of Markers of Cardiac Damage Laboratory Medicine Practice Guidelines: Analytical Issues for Biomarkers of Heart Failure. Clinical Biochemistry, 2008, 41, 222-226.	1.9	24
60	Implementation of High-Sensitivity and Point-of-Care Cardiac Troponin Assays into Practice: Some Different Thoughts. Clinical Chemistry, 2021, 67, 70-78.	3.2	24
61	Unraveling N-Terminal Proâ€“B-Type Natriuretic Peptide: Another Piece to a Very Complex Puzzle in Heart Failure Patients. Clinical Chemistry, 2015, 61, 1016-1018.	3.2	23
62	Cardiac Troponin Testing in Patients with COVID-19: A Strategy for Testing and Reporting Results. Clinical Chemistry, 2021, 67, 107-113.	3.2	23
63	High-Sensitivity Cardiac Troponin for Screening Large Populations of Healthy People: Is There Risk?. Clinical Chemistry, 2011, 57, 537-539.	3.2	22
64	Cardiac Troponin T Is Not Detected in Western Blots of Diseased Renal Tissue. Clinical Chemistry, 2001, 47, 782-783.	3.2	21
65	Clinical and Analytical Review of Ischemiaâ€Modified Albumin Measured by the Albumin Cobalt Binding Test. Advances in Clinical Chemistry, 2005, 39, 1-10.	3.7	21
66	Use of the bioMÃ©rieux VIDASÂ® troponin I ultra assay for the diagnosis of myocardial infarction and detection of adverse events in patients presenting with symptoms suggestive of acute coronary syndrome. Clinica Chimica Acta, 2008, 390, 72-75.	1.1	20
67	Myeloperoxidase Improves Risk Stratification in Patients with Ischemia and Normal Cardiac Troponin I Concentrations. Clinical Chemistry, 2011, 57, 603-608.	3.2	20
68	The State of Cardiac Troponin Assays: Looking Bright and Moving in the Right Direction. Clinical Chemistry, 2013, 59, 1014-1016.	3.2	20
69	Effectiveness of practices for improving the diagnostic accuracy of Non ST Elevation Myocardial Infarction in the Emergency Department: A Laboratory Medicine Best Practicesâ„¢ systematic review. Clinical Biochemistry, 2015, 48, 204-212.	1.9	20
70	Multiple Biomarkers Including Cardiac Troponins T and I Measured by High-Sensitivity Assays, as Predictors of Long-Term Mortality in Patients With Chronic Renal Failure Who Underwent Dialysis. American Journal of Cardiology, 2015, 115, 1601-1606.	1.6	20
71	Creation of a Universal Sample Bank for Determining the 99th Percentile for Cardiac Troponin Assays. journal of applied laboratory medicine, The, 2017, 1, 711-719.	1.3	20
72	Men are different than women: It's true for cardiac troponin too. Clinical Biochemistry, 2014, 47, 867-868.	1.9	18

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73	Cardiac Troponin Assays: Analytical Issues and Clinical Reference Range Cutpoints. Cardiovascular Toxicology, 2001, 1, 093-098.	2.7	17
74	Improving the 510(k) FDA Process for Cardiac Troponin Assays: In Search of Common Ground. Clinical Chemistry, 2014, 60, 1273-1275.	3.2	17
75	Searching for a BNP standard: Glycosylated proBNP as a common calibrator enables improved comparability of commercial BNP immunoassays. Clinical Biochemistry, 2017, 50, 181-185.	1.9	16
76	Geographic distribution of xanthine oxidase, free radical scavengers, creatine kinase, and lactate dehydrogenase enzyme systems in rat heart and skeletal muscle. American Journal of Anatomy, 1991, 192, 319-323.	1.0	14
77	False-Positive Lysergic Acid Diethylamide Immunoassay Screen Associated with Fentanyl Medication. Clinical Chemistry, 2002, 48, 205-206.	3.2	14
78	The diagnostic utility ofcardiac biomarkers in detecting myocardial infarction. Clinical Cornerstone, 2005, 7, S25-S30.	0.7	14
79	Impact of Biomarkers, Proteomics, and Genomics in Cardiovascular Disease. Clinical Chemistry, 2012, 58, 1-2.	3.2	14
80	Electronic Medical Recordâ€"Based Performance Improvement Project to Document and Reduce Excessive Cardiac Troponin Testing. Clinical Chemistry, 2015, 61, 498-504.	3.2	13
81	Cardiovascular Disease: Impact of Biomarkers, Proteomics, and Genomics. Clinical Chemistry, 2017, 63, 1-4.	3.2	13
82	Biochemical markers of thrombolytic success. Scandinavian Journal of Clinical and Laboratory Investigation, 1999, 59, 60-66.	1.2	11
83	Independent and combined effects of biotin and hemolysis on high-sensitivity cardiac troponin assays. Clinical Chemistry and Laboratory Medicine, 2021, 59, 1431-1443.	2.3	11
84	Diagnostic performance of a rapid, novel, whole blood, point of care high-sensitivity cardiac troponin I assay for myocardial infarction. Clinical Biochemistry, 2022, 105-106, 70-74.	1.9	11
85	Analytical issues for cardiac troponin. Progress in Cardiovascular Diseases, 2004, 47, 189-195.	3.1	10
86	Diagnostic and Prognostic Value of Cardiac Troponin I Assays in Patients Admitted With Symptoms Suggestive of Acute Coronary Syndrome. Archives of Pathology and Laboratory Medicine, 2004, 128, 430-434.	2.5	10
87	Type 2 myocardial infarction. Potential hazards of nomenclature systems: User discretion advised. International Journal of Cardiology, 2015, 179, 373-374.	1.7	9
88	Serial sampling of copeptin levels improves diagnosis and risk stratification in patients presenting with chest pain: results from the CHOPIN trial. Emergency Medicine Journal, 2016, 33, 23-29.	1.0	9
89	Best Practices for Monitoring Cardiac Troponin in Detecting Myocardial Injury. Clinical Chemistry, 2017, 63, 37-44.	3.2	9
90	Urine Creatinine Concentrations in Drug Monitoring Participants and Hospitalized Patients. Journal of Analytical Toxicology, 2016, 40, 659-662.	2.8	8

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91	Science Moves Slowly. Journal of the American College of Cardiology, 2018, 71, 1550-1552.	2.8	8
92	Multicenter assessment of a hemoglobin A1c point-of-care device for diagnosis of diabetes mellitus. Clinical Biochemistry, 2018, 61, 18-22.	1.9	8
93	Lot-to-Lot Variation for Commercial High-Sensitivity Cardiac Troponin: Can We Realistically Report Down to the Assayâ€™s Limit of Detection?. Clinical Chemistry, 2020, 66, 1146-1149.	3.2	7
94	The utility of risk scores when evaluating for acute myocardial infarction using high-sensitivity cardiac troponin I. American Heart Journal, 2020, 227, 1-8.	2.7	7
95	Comparison of 0/3-Hour Rapid Rule-Out Strategies Using High-Sensitivity Cardiac Troponin I in a US Emergency Department. Circulation: Cardiovascular Quality and Outcomes, 2020, 13, e006565.	2.2	7
96	Tricyclic Antidepressant Fatality: Postmortem Tissue Concentrations. Journal of Toxicology: Clinical Toxicology, 2001, 39, 649-650.	1.5	5
97	Neopterin: Still a Forgotten Biomarker. Clinical Chemistry, 2005, 51, 1903-1903.	3.2	5
98	The Challenges and Concerns Companies Face Pertaining to the US Food and Drug Administration 510(k) Process for Cardiac Biomarkers. Clinical Chemistry, 2012, 58, 31-38.	3.2	5
99	Endurance exercise training attenuates natriuretic peptide release during maximal effort exercise: biochemical correlates of the â€œathleteâ€™s heartâ€. Journal of Applied Physiology, 2018, 125, 1702-1709.	2.5	5
100	Heroinâ€related Deaths from the Hennepin County Medical Examiner's Office from 2004 Through 2015. Journal of Forensic Sciences, 2018, 63, 191-194.	1.6	5
101	Clinical use of cardiac troponin for acute cardiac care and emerging opportunities in the outpatient setting. Minerva Medica, 2019, 110, 139-156.	0.9	5
102	Cardiac Biomarkers in the New Millennium. Seminars in Dialysis, 2001, 14, 322-323.	1.3	4
103	The new face of heroin. American Journal of Emergency Medicine, 2017, 35, 1978-1979.	1.6	4
104	Finding acute coronary syndrome with serial troponin testing for rapid assessment of cardiac ischemic symptoms (FAST-TRAC): a study protocol. Clinical and Experimental Emergency Medicine, 2022, 9, 140-145.	1.6	4
105	Another reader comments on the same article:. Clinical Chemistry, 1998, 44, 1786-1787.	3.2	3
106	A comparison of modelled serum cTnT and cTnI kinetics after 60â€‰min swimming. Biomarkers, 2022, 27, 619-624.	1.9	3
107	Clinical Biomarkers of Cardiac Injury: Cardiac Troponins and Natriuretic Peptides. Toxicologic Pathology, 2006, 34, 91-93.	1.8	2
108	Serum creatine kinase isoenzyme measurements in master male and female marathon runners. Research in Sports Medicine, 1992, 3, 237-242.	0.0	1

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109	DORA '94-96: Directory of Rare Analyses Jocelyn M. Hicks, Donald S. Young. Washington, DC: AACC Press, 1994, 439 pp., $80.00. ISBN 0-915274-72-8. Clinical Chemistry, 1995, 41, 1549-1549.	3.2	1
110	3: Comparison of Point-of-Care and Central Laboratory Methods for the Measurement of Cardiac Troponin I in Patients With Suspected Acute Myocardial Infarction. American Journal of Clinical Pathology, 2015, 143, A002-A002.	0.7	1
111	Upper reference limits and percent measurable concentrations using a universal sample bank for high sensitivity cardiac troponin I using a point-of-care assay. Clinical Biochemistry, 2020, 83, 89-91.	1.9	1
112	Biomarkers in Cardiovascular Disease: Utility in Diagnosis, Risk Assessment, and Therapy. Clinical Chemistry, 2021, 67, 1-3.	3.2	1
113	Laboratory findings in a child with SARS-CoV-2 (COVID-19) multisystem inflammatory syndrome. Clinical Chemistry and Laboratory Medicine, 2021, 59, e259-e261.	2.3	1
114	Biomarker Testing Considerations in the Evaluation and Management of Patients With Heart Failure: Perspectives From the International Federation of Clinical Chemistry and Laboratory Medicine Committee. Journal of Cardiac Failure, 2021, 27, 1456-1461.	1.7	1
115	Cardiac troponin: redefining the detection of myocardial infarction. American Clinical Laboratory, 2002, 21, 32-4.	0.1	1
116	Commentary. Clinical Chemistry, 2017, 63, 1573-1574.	3.2	0
117	Abstract 8905: Cardiac Troponin Thresholds and Kinetics to Differentiate Myocardial Injury and Myocardial Infarction. Circulation, 2021, 144, .	1.6	0