

## 2022 ISACB Member Publications

Total of 215!

[Bioprosthetic heart valve structural degeneration associated with metabolic syndrome: Mitigation with polyoxazoline modification.](#)

Abramov A, Xue Y, Zakharchenko A, Kurade M, Soni RK, Levy RJ, Ferrari G.

Proc Natl Acad Sci U S A. 2023 Jan 3;120(1):e2219054120. doi: 10.1073/pnas.2219054120. Epub 2022 Dec 27.

PMID: 36574676

[A single-dose Q \$\beta\$  VLP vaccine against S100A9 protein reduces atherosclerosis in a preclinical model.](#)

Ortega-Rivera OA, Shin MD, Moreno-Gonzalez MA, Pokorski JK, Steinmetz NF.

Adv Ther (Weinh). 2022 Oct;5(10):2200092. doi: 10.1002/adtp.202200092. Epub 2022 Jul 7.

PMID: 36570039

[Human pluripotent stem cell-derived cardiomyocytes align under cyclic strain when guided by cardiac fibroblasts.](#)

Mostert D, Groenen B, Klouda L, Passier R, Goumans MJ, Kurniawan NA, Bouten CVC.

APL Bioeng. 2022 Dec 20;6(4):046108. doi: 10.1063/5.0108914. eCollection 2022 Dec.

PMID: 36567768 Free PMC article.

[Shear-mediated ALK5 expression regulates endothelial activation.](#)

Pang KT, Ghim M, Sarathchandra P, Warboys CM, Yacoub MH, Chester AH, Weinberg PD.

Biochem Biophys Res Commun. 2022 Dec 21;642:90-96. doi: 10.1016/j.bbrc.2022.12.058. Online ahead of print.

PMID: 36566567

[Tricultured cell sheets develop into functional pancreatic islet tissue with a vascular network.](#)

Homma J, Sekine H, Shimizu T.

Tissue Eng Part A. 2022 Dec 23. doi: 10.1089/ten.TEA.2022.0167. Online ahead of print.

PMID: 36565034

[Engineered Human Muscle Tissue from Multilayered Aligned Myofiber Sheets for Studies of Muscle Physiology and Predicting Drug Response.](#)

Takahashi H, Wakayama H, Nagase K, Shimizu T.

Small Methods. 2022 Dec 23:e2200849. doi: 10.1002/smt.202200849. Online ahead of print.

PMID: 36562139

[Attenuation of Smooth Muscle Cell Phenotypic Switching by Angiotensin 1-7 Protects against Thoracic Aortic Aneurysm.](#)

Jadli AS, Ballasy NN, Gomes KP, Mackay CDA, Meechem M, Wijesuriya TM, Belke D, Thompson J, Fedak PWM, Patel VB.

Int J Mol Sci. 2022 Dec 8;23(24):15566. doi: 10.3390/ijms232415566.

PMID: 36555207 Free PMC article.

[Two distinct gut microbial pathways contribute to meta-organismal production of phenylacetylglutamine with links to cardiovascular disease.](#)

Zhu Y, Dwidar M, Nemet I, Buffa JA, Sangwan N, Li XS, Anderson JT, Romano KA, Fu X, Funabashi M, Wang Z, Keranahalli P, Battle S, Tittle AN, Hajjar AM, Gogonea V, Fischbach MA, DiDonato JA, Hazen SL.

Cell Host Microbe. 2022 Dec 20:S1931-3128(22)00571-6. doi: 10.1016/j.chom.2022.11.015. Online ahead of print.

PMID: 36549300

[Preventing extrinsic mechanisms of bioprosthetic degeneration using polyphenols.](#)

Melder RJ, Naso F, Nicotra F, Russo L, Vesely I, Tuladhar SR, Calafiore AM, Zilla P, Gandaglia A, Korossis S.

Eur J Cardiothorac Surg. 2022 Dec 22:ezac583. doi: 10.1093/ejcts/ezac583. Online ahead of print.

PMID: 36548449

[Association of local solid mechanical, hemodynamic and morphological characteristics with ruptured intracranial aneurysm.](#)

Zhai X, Hu P, Wang Y, Zhang H, Cao L, Huang T, Lu J, Luo Y.

Int J Numer Method Biomed Eng. 2022 Dec 21:e3674. doi: 10.1002/cnm.3674. Online ahead of print.

PMID: 36541137

[Editorial: Vascular and valvular tissue engineering: Treating and modeling vasculopathies and valvulopathies.](#)

Smits AIPM, Iop L, Chester AH.

Front Cardiovasc Med. 2022 Nov 30;9:1092102. doi: 10.3389/fcvm.2022.1092102. eCollection 2022.

PMID: 36531732 Free PMC article. No abstract available.

[In silico model of atherosclerosis with individual patient calibration to enable precision medicine for cardiovascular disease.](#)

Buckler AJ, Marlevi D, Skenteris NT, Lengquist M, Kronqvist M, Matic L, Hedin U.

Comput Biol Med. 2022 Nov 30;152:106364. doi: 10.1016/j.combiomed.2022.106364. Online ahead of print.

PMID: 36525832

[Networked lymphatic endothelial cells in a transplanted cell sheet contribute to form functional lymphatic vessels.](#)

Nagahara AI, Homma J, Ryu B, Sekine H, Higashi Y, Shimizu T, Kawamata T.

Sci Rep. 2022 Dec 15;12(1):21698. doi: 10.1038/s41598-022-26041-0.

PMID: 36522421 Free PMC article.

[Ecto-5'-Nucleotidase \(Nt5e/CD73\)-Mediated Adenosine Signaling Attenuates TGF \$\beta\$ -2 Induced Elastin and Cellular Contraction.](#)

Cuevas RA, Wong R, Joolharzadeh P, Moorhead WJ 3rd, Chu CC, Callahan J 4th, Crane A, Boufford CK, Parise AM, Parwal A, Behzadi P, St Hilaire C.

Am J Physiol Cell Physiol. 2022 Dec 12. doi: 10.1152/ajpcell.00054.2022. Online ahead of print.

PMID: 36503240

[Dynamic chromatin organization and regulatory interactions in human endothelial cell differentiation.](#)

Alavattam KG, Mitzelfelt KA, Bonora G, Fields PA, Yang X, Chiu HS, Pabon L, Bertero A, Palpant NJ, Noble WS, Murry CE.

Stem Cell Reports. 2022 Dec 2:S2213-6711(22)00536-7. doi: 10.1016/j.stemcr.2022.11.003. Online ahead of print.

PMID: 36493778

[Embryonic aortic arch material properties obtained by optical coherence tomography-guided micropipette aspiration.](#)

Lashkarinia SS, Coban G, Banu Siddiqui H, Hwai Yap C, Pekkan K.

J Biomech. 2022 Nov 21;146:111392. doi: 10.1016/j.jbiomech.2022.111392. Online ahead of print.

PMID: 36473286

[Circulating markers of inflammation and angiogenesis and clinical outcomes across subtypes of pulmonary arterial hypertension.](#)

Hirsch K, Nolley S, Ralph DD, Zheng Y, Altemeier WA, Rhodes CJ, Morrell NW, Wilkins MR, Leary PJ, Rayner SG.

J Heart Lung Transplant. 2022 Nov 7:S1053-2498(22)02206-9. doi: 10.1016/j.healun.2022.10.026. Online ahead of print.

PMID: 36470771

[dATP elevation induces myocardial metabolic remodeling to support improved cardiac function.](#)

Mhatre KN, Murray JD, Flint G, McMillen TS, Weber G, Shakeri M, Tu AY, Steczina S, Weiss R, Marcinek DJ, Murry CE, Raftery D, Tian R, Moussavi-Harami F, Regnier M.

J Mol Cell Cardiol. 2022 Dec 5;175:1-12. doi: 10.1016/j.yjmcc.2022.11.010. Online ahead of print.

PMID: 36470336

[Filamin A pre-mRNA editing modulates vascularization and tumor growth.](#)

Jain M, Manjaly G, Maly K, de Vries MR, Janisiw M, König L, Nossent AY, Jantsch MF.

Mol Ther Nucleic Acids. 2022 Nov 9;30:522-534. doi: 10.1016/j.omtn.2022.11.004. eCollection 2022 Dec 13.

PMID: 36457700 Free PMC article.

[Amount of Pannexin 1 in Smooth Muscle Cells Regulates Sympathetic Nerve-Induced Vasoconstriction.](#)

Dunaway LS, Billaud M, Macal E, Good ME, Medina CB, Lorenz U, Ravichandran K, Koval M, Isakson BE.

Hypertension. 2022 Nov 30. doi: 10.1161/HYPERTENSIONAHA.122.20280. Online ahead of print.

PMID: 36448464

[A Method to Study the Correlation Between Local Collagen Structure and Mechanical Properties of Atherosclerotic Plaque Fibrous Tissue.](#)

Crielaard H, Guvenir Torun S, Wissing TB, de Miguel Muñoz P, Kremers GJ, Gijzen FJH, Van Der Heiden K, Akyildiz AC.

J Vis Exp. 2022 Nov 11;(189). doi: 10.3791/64334.

PMID: 36440849

[Editorial: Extracellular vesicles in cardiovascular inflammation and calcification.](#)

Krohn JB, Aikawa E, Aikawa M, Hutcheson JD, Sahoo S, Fish JE.

Front Cardiovasc Med. 2022 Nov 8;9:1077124. doi: 10.3389/fcvm.2022.1077124. eCollection 2022.

PMID: 36426218 Free PMC article. No abstract available.

[Advances in Cardiac Tissue Engineering.](#)

Kitsuka T, Takahashi F, Reinhardt J, Watanabe T, Ulziibayar A, Yimit A, Kelly J, Shinoka T.

Bioengineering (Basel). 2022 Nov 16;9(11):696. doi: 10.3390/bioengineering9110696.

PMID: 36421097 Free PMC article. Review.

[Development of three-dimensionally printed vascular stents of bioresorbable poly\(l-lactide-co-caprolactone\).](#)

Zhao J, Song G, Zhao Q, Feng H, Wang Y, Anderson JM, Zhao H, Liu Q.

J Biomed Mater Res B Appl Biomater. 2022 Nov 24. doi: 10.1002/jbm.b.35184. Online ahead of print.

PMID: 36420745

[HIF1A inhibitor PX-478 reduces pathological stretch-induced calcification and collagen turnover in aortic valve.](#)

Salim MT, Villa-Roel N, Vogel B, Jo H, Yoganathan AP.

Front Cardiovasc Med. 2022 Nov 7;9:1002067. doi: 10.3389/fcvm.2022.1002067. eCollection 2022.

PMID: 36419483 Free PMC article.

[Changes in miRNA expression in patients with peripheral arterial vascular disease during moderate- and vigorous-intensity physical activity.](#)

Sieland J, Niederer D, Engeroff T, Vogt L, Troidl C, Schmitz-Rixen T, Banzer W, Troidl K.

Eur J Appl Physiol. 2022 Nov 23;1-10. doi: 10.1007/s00421-022-05091-2. Online ahead of print.

PMID: 36418750 Free PMC article.

[Molecular Mechanisms of Vascular Health: Insights From Vascular Aging and Calcification.](#)

Sutton NR, Malhotra R, St Hilaire C, Aikawa E, Blumenthal RS, Gackenbach G, Goyal P, Johnson A, Nigwekar SU, Shanahan CM, Towler DA, Wolford BN, Chen Y.

Arterioscler Thromb Vasc Biol. 2023 Jan;43(1):15-29. doi: 10.1161/ATVBAHA.122.317332. Epub 2022 Nov 22.

PMID: 36412195 Free PMC article. Review.

[Correlation between aortic valve protein levels and vector flow mapping of wall shear stress and oscillatory shear index in patients supported with continuous-flow left ventricular assist devices.](#)

Kobsa S, Akiyama K, Nemeth SK, Kurlansky PA, Naka Y, Takeda K, Itatani K, Werth EG, Brown LM, Ferrari G, Takayama H.

J Heart Lung Transplant. 2023 Jan;42(1):64-75. doi: 10.1016/j.healun.2022.09.017. Epub 2022 Oct 1.

PMID: 36400676

[Single-cell RNA-sequencing analysis of aortic valve interstitial cells demonstrates the regulation of integrin signaling by nitric oxide.](#)

Majumdar U, Choudhury TZ, Manivannan S, Ueyama Y, Basu M, Garg V.

Front Cardiovasc Med. 2022 Oct 25;9:742850. doi: 10.3389/fcvm.2022.742850. eCollection 2022.

PMID: 36386365 Free PMC article.

[Phosphorylcholine Monoclonal Antibody Therapy Decreases Intraplaque Angiogenesis and Intraplaque Hemorrhage in Murine Vein Grafts.](#)

Baganha F, Sluiter TJ, de Jong RCM, van Alst LA, Peters HAB, Jukema JW, Delibegovic M, Pettersson K, Quax PHA, de Vries MR.

Int J Mol Sci. 2022 Nov 7;23(21):13662. doi: 10.3390/ijms232113662.

PMID: 36362449 Free PMC article.

[Visualization of Murine Vascular Remodeling and Blood Flow Dynamics by Ultra-High-Frequency Ultrasound Imaging.](#)

Sier VQ, de Jong A, Quax PHA, de Vries MR.

Int J Mol Sci. 2022 Oct 31;23(21):13298. doi: 10.3390/ijms232113298.

PMID: 36362087 Free PMC article.

[Effect of Native Aortic Leaflet Geometry Modification on Transcatheter Aortic Valve Neo-sinus and Aortic Sinus Flow: An In-vitro Study.](#)

Ncho BE, Kohli K, Sadri V, Yoganathan AP.

Cardiovasc Eng Technol. 2022 Nov 10. doi: 10.1007/s13239-022-00647-x. Online ahead of print.

PMID: 36357649

[An Objective and Repeatable Sac Isolation Technique for Comparing Biomechanical Metrics in Abdominal Aortic Aneurysms.](#)

Chung TK, Gueldner PH, Kickliter TM, Liang NL, Vorp DA.

Bioengineering (Basel). 2022 Oct 22;9(11):601. doi: 10.3390/bioengineering9110601.

PMID: 36354512 Free PMC article.

[A microfluidic impedance platform for real-time, \*in vitro\* characterization of endothelial cells undergoing fluid shear stress.](#)

Velasco V, Soucy P, Keynton R, Williams SJ.

Lab Chip. 2022 Nov 22;22(23):4705-4716. doi: 10.1039/d2lc00555g.

PMID: 36349980

[Computational analysis of serum-derived extracellular vesicle miRNAs in juvenile sheep model of single stage Fontan procedure.](#)

Park HJ, Kelly JM, Hoffman JR, Takaesu F, Schwartzman W, Ulziibayar A, Kitsuka T, Heuer E, Yimit A, Malbrue R, Anderson C, Morrison A, Naguib A, Mckee C, Harrison A, Boe B, Armstrong A, Salavitabar A, Yates A, Shinoka T, Carrillo S, Breuer CK, Davis ME.

Extracell Vesicle. 2022 Dec;1:100013. doi: 10.1016/j.vesic.2022.100013. Epub 2022 Oct 19.

PMID: 36330420

[Polyphenols could be Effective in Exerting a Disinfectant-Like Action on Bioprosthetic Heart Valves, Counteracting Bacterial Adhesiveness.](#)

Naso F, Calafiore AM, Gaudino M, Zilla P, Haverich A, Colli A, Melder RJ, Gandaglia A.

Cardiol Cardiovasc Med. 2022;6(5):487-492. doi: 10.26502/fccm.92920287. Epub 2022 Sep 30.

PMID: 36303878 Free PMC article.

[3D Human iPSC Blood Vessel Organoids as a Source of Flow-Adaptive Vascular Cells for Creating a Human-Relevant 3D-Scaffold Based Macrovascular Model.](#)

Meijer EM, Koch SE, van Dijk CGM, Maas RGC, Chrifi I, Szymczyk W, Besseling PJ, Pomp L, Koomen VJCH, Buikema JW, Bouten CVC, Verhaar MC, Smits AIPM, Cheng C.

Adv Biol (Weinh). 2022 Oct 27:e2200137. doi: 10.1002/adbi.202200137. Online ahead of print.

PMID: 36300913

[Plasma Gut Microbe-Derived Metabolites Associated with Peripheral Artery Disease and Major Adverse Cardiac Events.](#)

Ho KJ, Ramirez JL, Kulkarni R, Harris KG, Helenowski I, Xiong L, Ozaki CK, Grenon SM.

Microorganisms. 2022 Oct 19;10(10):2065. doi: 10.3390/microorganisms10102065.

PMID: 36296342 Free PMC article.

[Biomechanical Assessment of Macro-Calcification in Human Carotid Atherosclerosis and Its Impact on Smooth Muscle Cell Phenotype.](#)

Seime T, van Wanrooij M, Karlöf E, Kronqvist M, Johansson S, Matic L, Gasser TC, Hedin U.

Cells. 2022 Oct 18;11(20):3279. doi: 10.3390/cells11203279.

PMID: 36291144 Free PMC article.

[Engineering Spatiotemporal Control in Vascularized Tissues.](#)

Khanna A, Oropeza BP, Huang NF.

Bioengineering (Basel). 2022 Oct 14;9(10):555. doi: 10.3390/bioengineering9100555.

PMID: 36290523 Free PMC article. Review.

[Microfluidic bioprinting of tough hydrogel-based vascular conduits for functional blood vessels.](#)

Wang D, Maharjan S, Kuang X, Wang Z, Mille LS, Tao M, Yu P, Cao X, Lian L, Lv L, He JJ, Tang G, Yuk H, Ozaki CK, Zhao X, Zhang YS.

Sci Adv. 2022 Oct 28;8(43):eabq6900. doi: 10.1126/sciadv.abq6900. Epub 2022 Oct 26.

PMID: 36288300 Free PMC article.

[Cell-Based Microfluidic Device Utilizing Cell Sheet Technology.](#)

Sakaguchi K, Akimoto K, Takaira M, Tanaka RI, Shimizu T, Umezu S.

Cyborg Bionic Syst. 2022 Jan 27;2022:9758187. doi: 10.34133/2022/9758187. eCollection 2022.

PMID: 36285307 Free PMC article.

[The effect of plaque morphology, material composition and microcalcifications on the risk of cap rupture: A structural analysis of vulnerable atherosclerotic plaques.](#)

Corti A, De Paolis A, Grossman P, Dinh PA, Aikawa E, Weinbaum S, Cardoso L.

Front Cardiovasc Med. 2022 Oct 6;9:1019917. doi: 10.3389/fcvm.2022.1019917. eCollection 2022.

PMID: 36277774 Free PMC article.

[Proprotein Convertase Subtilisin/Kexin 9 \(PCSK9\) Promotes Macrophage Activation via LDL Receptor-Independent Mechanisms.](#)

Katsuki S, K Jha P, Lupieri A, Nakano T, Passos LSA, Rogers MA, Becker-Greene D, Le TD, Decano JL, Ho Lee L, Guimaraes GC, Abdelhamid I, Halu A, Muscoloni A, V Cannistraci C, Higashi H, Zhang H, Vromman A, Libby P, Keith Ozaki C, Sharma A, Singh SA, Aikawa E, Aikawa M.

Circ Res. 2022 Nov 11;131(11):873-889. doi: 10.1161/CIRCRESAHA.121.320056. Epub 2022 Oct 20.

PMID: 36263780

[Sox13 is a novel flow-sensitive transcription factor that prevents inflammation by repressing chemokine expression in endothelial cells.](#)

Demos C, Johnson J, Andueza A, Park C, Kim Y, Villa-Roel N, Kang DW, Kumar S, Jo H.

Front Cardiovasc Med. 2022 Sep 30;9:979745. doi: 10.3389/fcvm.2022.979745. eCollection 2022.

PMID: 36247423 Free PMC article.

[Sclerostin ablation prevents aortic valve stenosis in mice.](#)

Joll JE 2nd, Riley LA, Bersi MR, Nyman JS, Merryman WD.

Am J Physiol Heart Circ Physiol. 2022 Nov 1;323(5):H1037-H1047. doi: 10.1152/ajpheart.00355.2022. Epub 2022 Oct 14.

PMID: 36240434

[Sarco/endoplasmic reticulum calcium ATPase activity is unchanged despite increased myofilament calcium sensitivity in Zucker type 2 diabetic fatty rat heart.](#)

Ng YH, Lamberts RR, Jones PP, Sammut IA, Diffie GM, Wilkins GT, Baldi JC.

Sci Rep. 2022 Oct 7;12(1):16904. doi: 10.1038/s41598-022-20520-0.

PMID: 36207382 Free PMC article.

[The predictive capability of aortic stiffness index for aortic dissection among dilated ascending aortas.](#)

Fortunato RN, Huckaby LV, Emerel LV, Schlosser V, Yang F, Phillippi JA, Vorp DA, Maiti S, Gleason TG.

J Thorac Cardiovasc Surg. 2022 Sep 13:S0022-5223(22)00933-3. doi: 10.1016/j.jtcvs.2022.09.003. Online ahead of print.

PMID: 36207164

[Distinct role of mitochondrial function and protein kinase C in intimal and medial calcification \*in vitro\*.](#)

Heuschkel MA, Babler A, Heyn J, van der Vorst EPC, Steenman M, Gesper M, Kappel BA, Magne D, Gouëffic Y, Kramann R, Jahnen-Dechent W, Marx N, Quillard T, Goettsch C.

Front Cardiovasc Med. 2022 Sep 20;9:959457. doi: 10.3389/fcvm.2022.959457. eCollection 2022.

PMID: 36204585 Free PMC article.

[Murine endothelial serine palmitoyltransferase 1 \(SPTLC1\) is required for vascular development and systemic sphingolipid homeostasis.](#)

Kuo A, Checa A, Niaudet C, Jung B, Fu Z, Wheelock CE, Singh SA, Aikawa M, Smith LE, Proia RL, Hla T.

Elife. 2022 Oct 5;11:e78861. doi: 10.7554/eLife.78861.

PMID: 36197001 Free PMC article.

[Therapeutic potential of the Proprotein Convertase Subtilisin/Kexin family in vascular disease.](#)

Suur BE, Chemaly M, Lindquist Liljeqvist M, Djordjevic D, Stenemo M, Bergman O, Karlöf E, Lengquist M, Odeberg J, Hurt-Camejo E, Eriksson P, Ketelhuth DFJ, Roy J, Hedin U, Nyberg M, Matic L.

Front Pharmacol. 2022 Sep 15;13:988561. doi: 10.3389/fphar.2022.988561. eCollection 2022.

PMID: 36188622 Free PMC article.

[Macrophage-extracellular matrix interactions: Perspectives for tissue engineered heart valve remodeling.](#)

Poulis N, Martin M, Hoerstrup SP, Emmert MY, Fioretta ES.

Front Cardiovasc Med. 2022 Sep 13;9:952178. doi: 10.3389/fcvm.2022.952178. eCollection 2022.

PMID: 36176991 Free PMC article. Review.

[Aging-regulated TUG1 is dispensable for endothelial cell function.](#)

Gimbel AT, Koziarek S, Theodorou K, Schulz JF, Stanicek L, Kremer V, Ali T, Günther S, Kumar S, Jo H, Hübner N, Maegdefessel L, Dimmeler S, van Heesch S, Boon RA.

PLoS One. 2022 Sep 29;17(9):e0265160. doi: 10.1371/journal.pone.0265160. eCollection 2022.

PMID: 36173935 Free PMC article.

[Autophagy Enhances Longevity of Induced Pluripotent Stem Cell-Derived Endothelium via mTOR-Independent ULK1 Kinase.](#)

Hekman KE, Koss KM, Ivancic DZ, He C, Wertheim JA.

Stem Cells Transl Med. 2022 Nov 18;11(11):1151-1164. doi: 10.1093/stcltm/szac069.

PMID: 36173887 Free PMC article.

[Inhibition of advanced glycation end product formation and serum protein infiltration in bioprosthetic heart valve leaflets: Investigations of anti-glycation agents and anticalcification interactions with ethanol pretreatment.](#)

Zakharchenko A, Rock CA, Thomas TE, Keeney S, Hall EJ, Takano H, Krieger AM, Ferrari G, Levy RJ.

Biomaterials. 2022 Oct;289:121782. doi: 10.1016/j.biomaterials.2022.121782. Epub 2022 Sep 6.

PMID: 36099713

[Editorial: Insight in heart valve disease: 2021.](#)

Iop L, Chester AH, Sampaio RO, Aikawa E.

Front Cardiovasc Med. 2022 Aug 26;9:998862. doi: 10.3389/fcvm.2022.998862. eCollection 2022.

PMID: 36093133 Free PMC article. No abstract available.

[Small particles with large impact: Insights into the unresolved roles of innate immunity in extracellular vesicle-mediated cardiovascular calcification.](#)

Turner ME, Bartoli-Leonard F, Aikawa E.

Immunol Rev. 2022 Nov;312(1):20-37. doi: 10.1111/imr.13134. Epub 2022 Sep 11.

PMID: 36089771 Review.

[Atherogenic potential of microgravity hemodynamics in the carotid bifurcation: a numerical investigation.](#)

Sucosky P, Kalaiarasan VV, Quasebarth GB, Strack P, Shar JA.

NPJ Microgravity. 2022 Sep 9;8(1):39. doi: 10.1038/s41526-022-00223-6.

PMID: 36085153 Free PMC article.

[Patient-specific biomechanical analysis of atherosclerotic plaques enabled by histologically validated tissue characterization from computed tomography angiography: A case study.](#)

Buckler AJ, van Wanrooij M, Andersson M, Karlöf E, Matic LP, Hedin U, Gasser TC.

J Mech Behav Biomed Mater. 2022 Oct;134:105403. doi: 10.1016/j.jmbbm.2022.105403. Epub 2022 Aug 27.

PMID: 36049368

[A biomimetic multilayered polymeric material designed for heart valve repair and replacement.](#)

Sun M, Elkhodiry M, Shi L, Xue Y, Abyaneh MH, Kossar AP, Giuglaris C, Carter SL, Li RL, Bacha E, Ferrari G, Kysar J, Myers K, Kalfa D.

Biomaterials. 2022 Sep;288:121756. doi: 10.1016/j.biomaterials.2022.121756. Epub 2022 Aug 23.

PMID: 36041938

[Bioaffinity-based surface immobilization of antibodies to capture endothelial colony-forming cells.](#)

Boulanger MD, Level HA, Elkhodiry MA, Bashth OS, Chevallier P, Laroche G, Hoesli CA.

PLoS One. 2022 Aug 30;17(8):e0269316. doi: 10.1371/journal.pone.0269316. eCollection 2022.

PMID: 36040884 Free PMC article.

[Notch signaling regulates strain-mediated phenotypic switching of vascular smooth muscle cells.](#)

Karakaya C, van Turnhout MC, Visser VL, Ristori T, Bouten CVC, Sahlgren CM, Loerakker S.

Front Cell Dev Biol. 2022 Aug 12;10:910503. doi: 10.3389/fcell.2022.910503. eCollection 2022.

PMID: 36036000

[Valve Endothelial Cell Exposure to High Levels of Flow Oscillations Exacerbates Valve Interstitial Cell Calcification.](#)

Hsu CD, Tchir A, Mirza A, Chaparro D, Herrera RE, Hutcheson JD, Ramaswamy S.

Bioengineering (Basel). 2022 Aug 16;9(8):393. doi: 10.3390/bioengineering9080393.

PMID: 36004918 Free PMC article.

[Reply from authors: Toward physiologically meaningful biomechanical parameters from ex vivo biaxial testing.](#)

Nightingale M, Sigaeva T, Di Martino ES.

JTCVS Open. 2022 May 10;10:125. doi: 10.1016/j.xjon.2022.05.004. eCollection 2022 Jun.

PMID: 36004239 Free PMC article. No abstract available.

[Biomechanics in ascending aortic aneurysms correlate with tissue composition and strength.](#)

Nightingale M, Gregory A, Sigaeva T, Dobson GM, Fedak PWM, Appoo JJ, Di Martino ES; University of Calgary Aorta At-Risk Working Group.

JTCVS Open. 2021 Dec 16;9:1-10. doi: 10.1016/j.xjon.2021.12.001. eCollection 2022 Mar.

PMID: 36003475 Free PMC article.

[Long-term durability of a new surgical aortic valve: A 1 billion cycle in vitro study.](#)

Sadri V, Trusty PM, Madukauwa-David ID, Yoganathan AP.

JTCVS Open. 2021 Nov 4;9:59-69. doi: 10.1016/j.xjon.2021.10.056. eCollection 2022 Mar.

PMID: 36003435 Free PMC article.

[Identifying novel mechanisms of abdominal aortic aneurysm via unbiased proteomics and systems biology.](#)

Morgan S, Lee LH, Halu A, Nicolau JS, Higashi H, Ha AH, Wen JR, Daugherty A, Libby P, Cameron SJ, Mix D, Aikawa E, Owens AP 3rd, Singh SA, Aikawa M.

Front Cardiovasc Med. 2022 Aug 3;9:889994. doi: 10.3389/fcvm.2022.889994. eCollection 2022.

PMID: 35990960 Free PMC article.

[Editorial: Research reproducibility and preventing fraud.](#)

Uchida S, Yu J, Goldman M, Asmis R, Yang X, Aikawa E, Bourantas C, Aikawa M, Tevæearai Stahel H.

Front Cardiovasc Med. 2022 Aug 1;9:979467. doi: 10.3389/fcvm.2022.979467. eCollection 2022.

PMID: 35979020 Free PMC article. No abstract available.

[Elastin integrity in bicuspid valve-associated aortopathy is associated with altered biomechanical properties and influenced by age.](#)

Nightingale M, Guzzardi DG, Barker AJ, Malaisrie SC, McCarthy PM, Markl M, Di Martino ES, Fedak PWM.

Ann Cardiothorac Surg. 2022 Jul;11(4):426-435. doi: 10.21037/acs-2022-bav-17.

PMID: 35958543 Free PMC article.

[The need for comprehensive multidisciplinary programs, complex interventions, and precision medicine for bicuspid aortic valve disease.](#)

Crawford EE, McCarthy PM, Malaisrie SC, Mehta CK, Puthumana JJ, Robinson JD, Markl M, Bonow RO, Fedak PWM.

Ann Cardiothorac Surg. 2022 Jul;11(4):369-379. doi: 10.21037/acs-2021-bav-207.

PMID: 35958531 Free PMC article. Review.

[Induced pluripotent stem cell-derived smooth muscle cells to study cardiovascular calcification.](#)

Atkins SK, Sonawane AR, Brouwhuis R, Barrientos J, Ha A, Rogers M, Tanaka T, Okui T, Kuraoka S, Singh SA, Aikawa M, Aikawa E.

Front Cardiovasc Med. 2022 Jul 22;9:925777. doi: 10.3389/fcvm.2022.925777. eCollection 2022.

PMID: 35958427 Free PMC article.

[Differential requirement for DICER1 activity during the development of mitral and tricuspid valves.](#)

Yan S, Peng Y, Lu J, Shakil S, Shi Y, Crossman DK, Johnson WH, Liu S, Rokosh DG, Lincoln J, Wang Q, Jiao K.

J Cell Sci. 2022 Sep 1;135(17):jcs259783. doi: 10.1242/jcs.259783. Epub 2022 Sep 7.

PMID: 35946425

[Aortic Dissection is Determined by Specific Shape and Hemodynamic Interactions.](#)

Williams JG, Marlevi D, Bruse JL, Nezami FR, Moradi H, Fortunato RN, Maiti S, Billaud M, Edelman ER, Gleason TG.

Ann Biomed Eng. 2022 Dec;50(12):1771-1786. doi: 10.1007/s10439-022-02979-0. Epub 2022 Aug 9.

PMID: 35943618

[von Willebrand Factor: A Central Regulator of Arteriovenous Fistula Maturation Through Smooth Muscle Cell Proliferation and Outward Remodeling.](#)

Laboyrie SL, de Vries MR, de Jong A, de Boer HC, Lalai RA, Martinez L, Vazquez-Padron RI, Rotmans JI.

J Am Heart Assoc. 2022 Aug 16;11(16):e024581. doi: 10.1161/JAHA.121.024581. Epub 2022 Aug 5.

PMID: 35929448 Free PMC article.

[Aortic Biomechanics and Clinical Applications.](#)

Gregory AJ, Di Martino ES, Fedak PWM, Dobson GM.

Anesthesiology. 2022 Sep 1;137(3):351-363. doi: 10.1097/ALN.0000000000004313.

PMID: 35904358 No abstract available.

[Effects of Cyproheptadine on Mitral Valve Remodeling and Regurgitation After Myocardial Infarction.](#)

Marsit O, Clavel MA, Paquin A, Deschênes V, Hadjadj S, Sénéchal-Dumais I, Couet J, Arsenault M, Handschumacher MD, Levine RA, Aikawa E, Pibarot P, Beaudoin J.

J Am Coll Cardiol. 2022 Aug 2;80(5):500-510. doi: 10.1016/j.jacc.2022.05.025.

PMID: 35902173

[Development of a vascular substitute produced by weaving yarn made from human amniotic membrane.](#)

Grémare A, Thibes L, Gluais M, Torres Y, Potart D, Da Silva N, Dusserre N, Fénelon M, Sentilhes L, Lacomme S, Svahn I, Gontier E, Fricain JC, L'Heureux N.

Biofabrication. 2022 Aug 22;14(4). doi: 10.1088/1758-5090/ac84ae.

PMID: 35896106

[Change of Heart: the Epitranscriptome of Small Non-coding RNAs in Heart Failure.](#)

Woudenberg T, Kruyt ND, Quax PHA, Nossent AY.

Curr Heart Fail Rep. 2022 Oct;19(5):255-266. doi: 10.1007/s11897-022-00561-2. Epub 2022 Jul 25.

PMID: 35876969 Free PMC article. Review.

[Wall Shear Stress Predicts Media Degeneration and Biomechanical Changes in Thoracic Aorta.](#)

Kiema M, Sarin JK, Kauhanen SP, Torniaainen J, Matikka H, Luoto ES, Jaakkola P, Saari P, Liimatainen T, Vanninen R, Ylä-Herttua S, Hedman M, Laakkonen JP.

Front Physiol. 2022 Jul 7;13:934941. doi: 10.3389/fphys.2022.934941. eCollection 2022.

PMID: 35874533 Free PMC article.

[Can we diagnose acute rheumatic fever early to maximize the success of secondary prophylaxis in rheumatic heart valve disease?](#)

Passos LSA, Nizet V, Levine RA, Aikawa E.

Cardiovasc Res. 2022 Jul 20;118(9):e62-e65. doi: 10.1093/cvr/cvac071.

PMID: 35862716 No abstract available.

[Fostering New Scientific Networks in the COVID Era and Beyond.](#)

Alfaidi M, Zhang H, Oliveira SD.

Arterioscler Thromb Vasc Biol. 2022 Sep;42(9):1113-1120. doi: 10.1161/ATVBAHA.122.317452. Epub 2022 Jul 21.

PMID: 35861068 Review.

[Improved Functional Assessment of Ischemic Severity Using 3D Printed Models.](#)

Kolli KK, Jang SJ, Zahid A, Caprio A, Alaie S, Moghadam AAA, Xu P, Shepherd R, Mosadegh B, Dunham S.

Front Cardiovasc Med. 2022 Jun 30;9:909680. doi: 10.3389/fcvm.2022.909680. eCollection 2022.

PMID: 35845036 Free PMC article.

[Computational analysis of the role of mechanosensitive Notch signaling in arterial adaptation to hypertension.](#)

van Asten JGM, Ristori T, Nolan DR, Lally C, Baaijens FPT, Sahlgren CM, Loerakker S.

J Mech Behav Biomed Mater. 2022 Sep;133:105325. doi: 10.1016/j.jmbbm.2022.105325. Epub 2022 Jun 29.

PMID: 35839633 Free PMC article.

[Development of a novel low-background noise blood loop model for testing blood-contacting biomaterials and medical devices in fresh human blood.](#)

Cahalan P, Hegy M, Cahalan L, Curry B, Ubl S, Jeffers H, Wolf MF.

J Biomed Mater Res B Appl Biomater. 2023 Jan;111(1):38-50. doi: 10.1002/jbm.b.35130. Epub 2022 Jul 14.

PMID: 35833248

[Anisotropy profoundly alters stress fields within contractile cells and cell aggregates.](#)

Ashouri Choshali H, Billiar KL, Rahbar N.

Biomech Model Mechanobiol. 2022 Oct;21(5):1357-1370. doi: 10.1007/s10237-022-01595-0. Epub 2022 Jul 12.

PMID: 35829977

[Engineering Functional Vascularized Beige Adipose Tissue from Microvascular Fragments of Models of Healthy and Type II Diabetes Conditions.](#)

Acosta FM, Stojkova K, Zhang J, Garcia Huitron EI, Jiang JX, Rathbone CR, Brey EM.

J Tissue Eng. 2022 Jun 24;13:20417314221109337. doi: 10.1177/20417314221109337. eCollection 2022 Jan-Dec.

PMID: 35782994 Free PMC article.

[Long-term results of autologous scaffold-free tissue-engineered vascular graft for hemodialysis access.](#)

Wystrychowski W, Garrido SA, Marini A, Dusserre N, Radochonski S, Zagalski K, Antonelli J, Canalis M, Sammartino A, Darocha Z, Baczyński R, Cierniak T, Regele H, de la Fuente LM, Cierpka L, McAllister TN, L'Heureux N.

J Vasc Access. 2022 Jun 30:11297298221095994. doi: 10.1177/11297298221095994. Online ahead of print.

PMID: 35773955

[Adventitia-derived extracellular matrix hydrogel enhances contractility of human vasa vasorum-derived pericytes via  \$\alpha\_2 \beta\_1\$  integrin and TGF \$\beta\$  receptor.](#)

Wintruba KL, Hill JC, Richards TD, Lee YC, Kaczorowski DJ, Sultan I, Badylak SF, Billaud M, Gleason TG, Phillippi JA.

J Biomed Mater Res A. 2022 Dec;110(12):1912-1920. doi: 10.1002/jbm.a.37422. Epub 2022 Jun 30.

PMID: 35770946

[Editorial: Frontiers in Cardiovascular Medicine: Rising Stars 2021.](#)

Wang L, Xu GE, Pan L, Aikawa E, Aikawa M, Xiao J, Huang NF.

Front Cardiovasc Med. 2022 Jun 9;9:928981. doi: 10.3389/fcvm.2022.928981. eCollection 2022.

PMID: 35757336

[Significance of aortoseptal angle anomalies to left ventricular hemodynamics and subaortic stenosis: A numerical study.](#)

Shar JA, Keswani SG, Grande-Allen KJ, Sucosky P.

Comput Biol Med. 2022 Jul;146:105613. doi:  
10.1016/j.combiomed.2022.105613. Epub 2022 May 15.

PMID: 35751200

[The Time-Dependent Role of Bisphosphonates on Atherosclerotic Plaque Calcification.](#)

Bakhshian Nik A, Ng HH, Garcia Russo M, Iacoviello F, Shearing PR, Bertazzo S, Hutcheson JD.

J Cardiovasc Dev Dis. 2022 May 25;9(6):168. doi: 10.3390/jcdd9060168.

PMID: 35735797 Free PMC article.

[Progression of aortic stenosis after an acute myocardial infarction.](#)

Paquin A, Marsit O, Deschênes V, Rouabhia D, Hadjadj S, Clisson M, Robitaille C, Aikawa E, Levine RA, Pibarot P, Clavel MA, Beaudoin J.

Open Heart. 2022 Jun;9(1):e002046. doi: 10.1136/openhrt-2022-002046.

PMID: 35728891 Free PMC article.

[Inhibition of alkaline phosphatase impairs dyslipidemia and protects mice from atherosclerosis.](#)

Bessueille L, Kawtharany L, Quillard T, Goettsch C, Briolay A, Taraconat N, Balayssac S, Gilard V, Mebarek S, Peyruchaud O, Duboeuf F, Bouillot C, Pinkerton A, Mechtouff L, Buchet R, Hamade E, Zibara K, Fonta C, Canet-Soulas E, Millan JL, Magne D.

Transl Res. 2023 Jan;251:2-13. doi: 10.1016/j.trsl.2022.06.010. Epub 2022 Jun 17.

PMID: 35724933

[Inter-donor variability of extracellular matrix production in long-term cultures of human fibroblasts.](#)

Kawecki F, Gluais M, Claverol S, Dusserre N, McAllister T, L'Heureux N.

Biomater Sci. 2022 Jul 12;10(14):3935-3950. doi: 10.1039/d1bm01933c.

PMID: 35700514 Free PMC article.

[Matrix Metalloproteinase-Targeted SPECT/CT Imaging for Evaluation of Therapeutic Hydrogels for the Early Modulation of Post-Infarct Myocardial Remodeling.](#)

Thorn SL, Shuman JA, Stacy MR, Purcell BP, Doviak H, Burdick JA, Spinale FG, Sinusas AJ.

J Cardiovasc Transl Res. 2022 Jun 13. doi: 10.1007/s12265-022-10280-7. Online ahead of print.

PMID: 35697979

[S2 Heart Sound Detects Aortic Valve Calcification Independent of Hemodynamic Changes in Mice.](#)

Dargam V, Ng HH, Nasim S, Chaparro D, Irion CI, Seshadri SR, Barreto A, Danziger ZC, Shehadeh LA, Hutcheson JD.

Front Cardiovasc Med. 2022 May 25;9:809301. doi: 10.3389/fcvm.2022.809301. eCollection 2022.

PMID: 35694672 Free PMC article.

[In vitro circulation model driven by tissue-engineered dome-shaped cardiac tissue.](#)

Kikuchi T, Matsuura K, Shimizu T.

Biofabrication. 2022 Jun 28;14(3). doi: 10.1088/1758-5090/ac77c1.

PMID: 35688123

[Osteocalcin association with vascular function in chronic kidney disease.](#)

Guo X, Li Y, Zhou Y, Zhang C, Liang S, Zheng Y, Chen X, Cai G.

J Clin Hypertens (Greenwich). 2022 Jul;24(7):928-936. doi: 10.1111/jch.14523. Epub 2022 Jun 10.

PMID: 35687487 Free PMC article.

[Silk Fibroin as Adjuvant in the Fabrication of Mechanically Stable Fibrin Biocomposites.](#)

El Maachi I, Kyriakou S, Rütten S, Kopp A, Köpf M, Jockenhoevel S, Fernández-Colino A.

Polymers (Basel). 2022 May 31;14(11):2251. doi: 10.3390/polym14112251.

PMID: 35683920 Free PMC article.

[Engineering the multiscale complexity of vascular networks.](#)

O'Connor C, Brady E, Zheng Y, Moore E, Stevens KR.

Nat Rev Mater. 2022;7(9):702-716. doi: 10.1038/s41578-022-00447-8. Epub 2022 May 31.

PMID: 35669037 Free PMC article. Review.

[Connections for Matters of the Heart: Network Medicine in Cardiovascular Diseases.](#)

Sonawane AR, Aikawa E, Aikawa M.

Front Cardiovasc Med. 2022 May 19;9:873582. doi: 10.3389/fcvm.2022.873582. eCollection 2022.

PMID: 35665246 Free PMC article. Review.

[Donor Heterogeneity in the Human Macrophage Response to a Biomaterial Under Hyperglycemia \*In Vitro\*.](#)

Koch SE, Verhaegh FLP, Smink S, Mihăilă SM, Bouten CVC, Smits AIPM.

Tissue Eng Part C Methods. 2022 Aug;28(8):440-456. doi: 10.1089/ten.TEC.2022.0066. Epub 2022 Jul 13.

PMID: 35658619

[Marker-Independent Monitoring of \*in vitro\* and \*in vivo\* Degradation of Supramolecular Polymers Applied in Cardiovascular \*in situ\* Tissue Engineering.](#)

Marzi J, Munnig Schmidt EC, Brauchle EM, Wissing TB, Bauer H, Serrero A, Söntjens SHM, Bosman AW, Cox MAJ, Smits AIPM, Schenke-Layland K.

Front Cardiovasc Med. 2022 May 17;9:885873. doi: 10.3389/fcvm.2022.885873. eCollection 2022.

PMID: 35656396 Free PMC article.

[Cell-Based HIF1 \$\alpha\$  Gene Therapy Reduces Myocardial Scar and Enhances Angiopoietic Proteome, Transcriptomic and miRNA Expression in Experimental Chronic Left Ventricular Dysfunction.](#)

Gara E, Ong SG, Winkler J, Zlabinger K, Lukovic D, Merkely B, Emmert MY, Wolint P, Hoerstrup SP, Gyöngyösi M, Wu JC, Pavo N.

Front Bioeng Biotechnol. 2022 May 12;10:767985. doi: 10.3389/fbioe.2022.767985. eCollection 2022.

PMID: 35646882 Free PMC article.

[VLA4-Enhanced Allogeneic Endothelial Progenitor Cell-Based Therapy Preserves the Aortic Valve Function in a Mouse Model of Dyslipidemia and Diabetes.](#)

Filippi A, Constantin A, Alexandru N, Mocanu CA, Vlad ML, Fenyo IM, Simionescu A, Simionescu DT, Manduteanu I, Georgescu A.

Pharmaceutics. 2022 May 17;14(5):1077. doi: 10.3390/pharmaceutics14051077.

PMID: 35631662 Free PMC article.

[Promise of a Novel Bedside-to-Bench Paradigm: Can Percutaneous Coronary Intervention Proteomics Balloon Into Clinical Practice?](#)

Decano JL, Aikawa M, Singh SA.

Arterioscler Thromb Vasc Biol. 2022 Jul;42(7):865-867. doi: 10.1161/ATVBAHA.122.317802. Epub 2022 May 26.

PMID: 35616034 No abstract available.

[Tissue engineered vascular grafts transform into autologous neovessels capable of native function and growth.](#)

Blum KM, Zbinden JC, Ramachandra AB, Lindsey SE, Szafron JM, Reinhardt JW, Heitkemper M, Best CA, Mirhaidari GJM, Chang YC, Ulziibayar A, Kelly J, Shah KV, Drews JD, Zakko J, Miyamoto S, Matsuzaki Y, Iwaki R, Ahmad H, Daulton R, Musgrave D, Wiet MG, Heuer E, Lawson E, Schwarz E, McDermott MR,

Krishnamurthy R, Krishnamurthy R, Hor K, Armstrong AK, Boe BA, Berman DP, Trask AJ, Humphrey JD, Marsden AL, Shinoka T, Breuer CK.

Commun Med (Lond). 2022 Jan 10;2:3. doi: 10.1038/s43856-021-00063-7. eCollection 2022.

PMID: 35603301 Free PMC article.

[Engineered patterns of Notch ligands Jag1 and Dll4 elicit differential spatial control of endothelial sprouting.](#)

Tiemeijer LA, Ristori T, Stassen OMJA, Ahlberg JJ, de Bijl JJJ, Chen CS, Bentley K, Bouten CVC, Sahlgren CM.

iScience. 2022 Apr 27;25(5):104306. doi: 10.1016/j.isci.2022.104306. eCollection 2022 May 20.

PMID: 35602952 Free PMC article.

[Learning Environments and Evidence-Based Practices in Bioengineering and Biomedical Engineering.](#)

Billiar K, Gaver DP 3rd, Barbee K, Singh A, DesJardins JD, Pruitt B, Tranquillo J, Gaudette G, Winkelstein B, Makowski L, Amos JR, Saterbak A, LeDoux J, Helmke B, Grimm M, Benkeser P, Segan LD, Pfister B, Meaney D, Arinzech T, Margulies S.

Biomed Eng Educ. 2022 Jan;2(1):1-16. doi: 10.1007/s43683-021-00062-z. Epub 2022 Jan 31.

PMID: 35599985 Free PMC article.

[Clinical Impact of Computational Heart Valve Models.](#)

Toma M, Singh-Gryzbon S, Frankini E, Wei ZA, Yoganathan AP.

Materials (Basel). 2022 May 5;15(9):3302. doi: 10.3390/ma15093302.

PMID: 35591636 Free PMC article. Review.

[Large Vessel Cell Heterogeneity and Plasticity: Focus in Aortic Aneurysms.](#)

Jauhiainen S, Kiema M, Hedman M, Laakkonen JP.

Arterioscler Thromb Vasc Biol. 2022 Jul;42(7):811-818. doi: 10.1161/ATVBAHA.121.316237. Epub 2022 May 19.

PMID: 35587695 Review.

[Advances in three-dimensional bioprinted stem cell-based tissue engineering for cardiovascular regeneration.](#)

Khanna A, Ayan B, Undieh AA, Yang YP, Huang NF.

J Mol Cell Cardiol. 2022 Aug;169:13-27. doi: 10.1016/j.yjmcc.2022.04.017. Epub 2022 May 12.

PMID: 35569213 Review.

[Linking Metabolic Regulation of Epigenetic Modifications to Atherosclerotic Calcification.](#)

Cuevas RA, St Hilaire C.

Circ Res. 2022 May 13;130(10):1583-1585. doi: 10.1161/CIRCRESAHA.122.321142. Epub 2022 May 12.

PMID: 35549370 No abstract available.

[DCBL2 Deficiency Contributes to Aortic Stenosis via Increased BMP2 Signaling.](#)

Armstrong DWJ, Merryman WD.

JACC Basic Transl Sci. 2022 Apr 25;7(4):346-347. doi: 10.1016/j.jacbts.2022.01.015. eCollection 2022 Apr.

PMID: 35540098 Free PMC article.

[Acute Elution of TGFβ2 Affects the Smooth Muscle Cells in a Compliance-Matched Vascular Graft.](#)

Furdella KJ, Higuchi S, Kim K, Doetschman T, Wagner WR, Vande Geest JP.

Tissue Eng Part A. 2022 Jul;28(13-14):640-650. doi: 10.1089/ten.TEA.2021.0161.

PMID: 35521649

[Chorion-derived extracellular matrix hydrogel and fibronectin surface coatings show similar beneficial effects on endothelialization of expanded polytetrafluoroethylene vascular grafts.](#)

Rohringer S, Schneider KH, Eder G, Hager P, Enayati M, Kapeller B, Kiss H, Windberger U, Podesser BK, Bergmeister H.

Mater Today Bio. 2022 Apr 16;14:100262. doi: 10.1016/j.mtbio.2022.100262. eCollection 2022 Mar.

PMID: 35509865 Free PMC article.

[Flexing Their Muscles: Maturation of Stem Cell-Derived Cardiomyocytes on Elastomeric Substrates to Enhance Cardiac Repair.](#)

Karbassi E, Murry CE.

Circulation. 2022 May 3;145(18):1427-1430. doi: 10.1161/CIRCULATIONAHA.122.059079. Epub 2022 May 2.

PMID: 35500046 No abstract available.

[Clinical risk scores for stroke correlate with molecular signatures of vulnerability in symptomatic carotid patients.](#)

Wadén K, Karlöf E, Narayanan S, Lengquist M, Hansson GK, Hedin U, Roy J, Matic L.

iScience. 2022 Apr 8;25(5):104219. doi: 10.1016/j.isci.2022.104219. eCollection 2022 May 20.

PMID: 35494231 Free PMC article.

[Evaluation of early bilateral ovariectomy in mice as a model of left heart disease.](#)

Joll JE 2nd, Bersi MR, Nyman JS, Merryman WD.

Am J Physiol Heart Circ Physiol. 2022 Jun 1;322(6):H1080-H1085. doi: 10.1152/ajpheart.00157.2022. Epub 2022 Apr 29.

PMID: 35486477

[Extracellular vesicles enriched with an endothelial cell pro-survival microRNA affects skin tissue regeneration.](#)

Fernandes H, Zonnari A, Abreu R, Aday S, Barão M, Albino I, Lino M, Branco A, Seabra C, Barata T, Leal EC, Tralhão JG, Gonçalves L, de Jong A, Peters HAB, de Vries MR, da Costa Martins P, Quax PHA, Ferreira L.

Mol Ther Nucleic Acids. 2022 Mar 19;28:307-327. doi: 10.1016/j.omtn.2022.03.018. eCollection 2022 Jun 14.

PMID: 35474734 Free PMC article.

[Embracing Diversity, Equity, and Inclusion in the Scientific Community-Viewpoints of the Diversity, Equity, and Inclusion Committee of the North American Vascular Biology Organization.](#)

Garelnabi M, Cowdin M, Fang Y, Shrestha B, Ushio-Fukai M, Aikawa E, Graham G, Molema G, Yanagisawa H, Aikawa M.

Front Cardiovasc Med. 2022 Apr 13;9:863256. doi: 10.3389/fcvm.2022.863256. eCollection 2022.

PMID: 35463765 Free PMC article.

[Profiling Genome-Wide DNA Methylation Patterns in Human Aortic and Mitral Valves.](#)

Halawa S, Latif N, Tseng YT, Ibrahim AM, Chester AH, Moustafa A, Aguib Y, Yacoub MH.

Front Cardiovasc Med. 2022 Apr 6;9:840647. doi: 10.3389/fcvm.2022.840647. eCollection 2022.

PMID: 35463757 Free PMC article.

[Whole-genome sequencing analysis of clozapine-induced myocarditis.](#)

Narang A, Lacaze P, Ronaldson KJ, McNeil JJ, Jayaram M, Thomas N, Sellmer R, Crockford DN, Stowe R, Greenway SC, Pantelis C, Bousman CA.

Pharmacogenomics J. 2022 May;22(3):173-179. doi: 10.1038/s41397-022-00271-x. Epub 2022 Apr 23.

PMID: 35461379

[Layer-specific Nos3 expression and genotypic distribution in bicuspid aortic valve aortopathy.](#)

Hill JC, Billaud M, Richards TD, Kotlarczyk MP, Shiva S, Phillippi JA, Gleason TG.  
Eur J Cardiothorac Surg. 2022 Oct 4;62(5):ezac237. doi: 10.1093/ejcts/ezac237.  
PMID: 35460403

[Adventitial Fibroblasts in Aortic Aneurysm: Unraveling Pathogenic Contributions to Vascular Disease.](#)

Mackay CDA, Jadli AS, Fedak PWM, Patel VB.  
Diagnostics (Basel). 2022 Mar 31;12(4):871. doi: 10.3390/diagnostics12040871.  
PMID: 35453919 Free PMC article. Review.

[On vasa vasorum: A history of advances in understanding the vessels of vessels.](#)

Phillippi JA.  
Sci Adv. 2022 Apr 22;8(16):eabl6364. doi: 10.1126/sciadv.abl6364. Epub 2022 Apr 20.  
PMID: 35442731 Free PMC article. Review.

[Endothelial Progenitor Cell-Based \*in vitro\* Pre-Endothelialization of Human Cell-Derived Biomimetic Regenerative Matrices for Next-Generation Transcatheter Heart Valves Applications.](#)

Motta SE, Zaytseva P, Fioretta ES, Lintas V, Breyman C, Hoerstrup SP, Emmert MY.  
Front Bioeng Biotechnol. 2022 Mar 31;10:867877. doi: 10.3389/fbioe.2022.867877. eCollection 2022.  
PMID: 35433657 Free PMC article.

[The RiboMaP Spectral Annotation Method Applied to Various ADP-Ribosylome Studies Including INF- \$\gamma\$ -Stimulated Human Cells and Mouse Tissues.](#)

Singh SA, Kuraoka S, Pestana DVS, Nasir W, Delanghe B, Aikawa M.

Front Cardiovasc Med. 2022 Mar 28;9:851351. doi: 10.3389/fcvm.2022.851351. eCollection 2022.

PMID: 35419443 Free PMC article.

[A disease-driver population within interstitial cells of human calcific aortic valves identified via single-cell and proteomic profiling.](#)

Decano JL, Iwamoto Y, Goto S, Lee JY, Matamalas JT, Halu A, Blaser M, Lee LH, Pieper B, Chelvanambi S, Silva-Nicolau J, Bartoli-Leonard F, Higashi H, Shibata H, Vyas P, Wang J, Gostjeva E, Body SC, Singh SA, Aikawa M, Aikawa E.

Cell Rep. 2022 Apr 12;39(2):110685. doi: 10.1016/j.celrep.2022.110685.

PMID: 35417712

[Combining 3D-Printing and Electrospinning to Manufacture Biomimetic Heart Valve Leaflets.](#)

Freystetter B, Grab M, Grefen L, Bischof L, Isert L, Mela P, Bezuidenhout D, Hagl C, Thierfelder N.

J Vis Exp. 2022 Mar 23;(181). doi: 10.3791/63604.

PMID: 35404357

[In silico Drug Screening Approach Using L1000-Based Connectivity Map and Its Application to COVID-19.](#)

Asano T, Chelvanambi S, Decano JL, Whelan MC, Aikawa E, Aikawa M.

Front Cardiovasc Med. 2022 Mar 24;9:842641. doi: 10.3389/fcvm.2022.842641. eCollection 2022.

PMID: 35402570 Free PMC article.

[Circulating Biomarkers in Lower Extremity Artery Disease.](#)

Ziegler L, Hedin U, Gottsäter A.

Eur Cardiol. 2022 Mar 23;17:e09. doi: 10.15420/ecr.2021.58. eCollection 2022 Feb.

PMID: 35401792 Free PMC article. Review.

[A patient-specific multi-modality abdominal aortic aneurysm imaging phantom.](#)

Little CD, Mackle EC, Maneas E, Chong D, Nikitichev D, Constantinou J, Tsui J, Hamilton G, Rakhit RD, Mastracci TM, Desjardins AE.

Int J Comput Assist Radiol Surg. 2022 Sep;17(9):1611-1617. doi: 10.1007/s11548-022-02612-4. Epub 2022 Apr 10.

PMID: 35397710 Free PMC article.

[Inhibition of BK<sub>Ca</sub> channels protects neonatal hearts against myocardial ischemia and reperfusion injury.](#)

Sanghvi S, Szteyn K, Ponnalagu D, Sridharan D, Lam A, Hansra I, Chaudhury A, Majumdar U, Kohut AR, Gururaja Rao S, Khan M, Garg V, Singh H.

Cell Death Discov. 2022 Apr 7;8(1):175. doi: 10.1038/s41420-022-00980-z.

PMID: 35393410 Free PMC article.

[The Developmental Origin of Calcific Aortic Stenosis.](#)

Aikawa E, Hutcheson JD.

N Engl J Med. 2022 Apr 7;386(14):1372-1374. doi: 10.1056/NEJMcibr2200439.

PMID: 35388675 No abstract available.

[Cardiovascular Tissue Engineering and Regeneration: A Plead for Further Knowledge Convergence.](#)

Bouten CVC, Cheng C, Vermue IM, Gawlitta D, Passier R.

Tissue Eng Part A. 2022 Jun;28(11-12):525-541. doi: 10.1089/ten.TEA.2021.0231. Epub 2022 May 6.

PMID: 35382591 Review.

[A novel anti-inflammatory role links the CARS2 locus to protection from coronary artery disease.](#)

Dang AT, Turner AW, Lau P, Mohottalage D, Stephanie Fong YK, Eriksson P, Folkersen L, Matic L, Hedin U, Soubeyrand S, McPherson R.

Atherosclerosis. 2022 May;348:8-15. doi: 10.1016/j.atherosclerosis.2022.03.024. Epub 2022 Mar 28.

PMID: 35381443

[Human Endothelial Colony-Forming Cells.](#)

Melero-Martin JM.

Cold Spring Harb Perspect Med. 2022 Dec 1;12(12):a041154. doi: 10.1101/cshperspect.a041154.

PMID: 35379656

[Atypical Expression of Smooth Muscle Markers and Co-activators and Their Regulation in Rheumatic Aortic and Calcified Bicuspid Valves.](#)

Latif N, Sarathchandra P, McCormack A, Yacoub MH, Chester AH.

Front Cardiovasc Med. 2022 Mar 17;9:793666. doi: 10.3389/fcvm.2022.793666. eCollection 2022.

PMID: 35369286 Free PMC article.

[Near-field electrospinning of polydioxanone small diameter vascular graft scaffolds.](#)

King WE 3rd, Bowlin GL.

J Mech Behav Biomed Mater. 2022 Jun;130:105207. doi: 10.1016/j.jmbbm.2022.105207. Epub 2022 Mar 29.

PMID: 35367688

[Pirfenidone Has Anti-fibrotic Effects in a Tissue-Engineered Model of Human Cardiac Fibrosis.](#)

Bracco Gartner TCL, Crnko S, Leiteris L, van Adrichem I, van Laake LW, Bouten CVC, Goumans MJ, Suyker WJL, Sluijter JPG, Hjortnaes J.

Front Cardiovasc Med. 2022 Mar 11;9:854314. doi: 10.3389/fcvm.2022.854314. eCollection 2022.

PMID: 35360018 Free PMC article.

[Increasing nitric oxide bioavailability fails to improve collateral vessel formation in humanized sickle cell mice.](#)

Lewis CV, Sellak H, Hansen L, Joseph G, Hurtado J, Archer DR, Jun HW, Brown LA, Taylor WR.

Lab Invest. 2022 Aug;102(8):805-813. doi: 10.1038/s41374-022-00780-0. Epub 2022 Mar 30.

PMID: 35354915 Free PMC article.

[Wnt Site Signaling Inhibitor Secreted Frizzled-Related Protein 3 Protects Mitral Valve Endothelium From Myocardial Infarction-Induced Endothelial-to-Mesenchymal Transition.](#)

Alvandi Z, Nagata Y, Passos LSA, Hashemi Gheinani A, Guerrero JL, Wylie-Sears J, Romero DC, Morris BA, Sullivan SM, Yaghoubian KM, Alvandi A, Adam RM, Aikawa E, Levine RA, Bischoff J.

J Am Heart Assoc. 2022 Apr 5;11(7):e023695. doi: 10.1161/JAHA.121.023695. Epub 2022 Mar 29.

PMID: 35348006 Free PMC article.

[Multimodal Structural Analysis of the Human Aorta: From Valve to Bifurcation.](#)

Liyanage L, Musto L, Budgeon C, Ruddy G, Biggs M, Saratzis A, Vorp DA, Vavourakis V, Bown M, Tsamis A.

Eur J Vasc Endovasc Surg. 2022 May;63(5):721-730. doi: 10.1016/j.ejvs.2022.02.005. Epub 2022 Feb 11.

PMID: 35346566

[Endothelial-derived von Willebrand factor accelerates fibrin clotting within engineered microvessels.](#)

Rayner SG, Scholl Z, Mandrycky CJ, Chen J, LaValley KN, Leary PJ, Altemeier WA, Liles WC, Chung DW, López JA, Fu H, Zheng Y.

J Thromb Haemost. 2022 Jul;20(7):1627-1637. doi: 10.1111/jth.15714. Epub 2022 Apr 11.

PMID: 35343037

[An \*in vitro\* Blood-brain Barrier Model to Study the Penetration of Nanoparticles.](#)

Aday S, Li W, Karp JM, Joshi N.

Bio Protoc. 2022 Feb 20;12(4):e4334. doi: 10.21769/BioProtoc.4334. eCollection 2022 Feb 20.

PMID: 35340294 Free PMC article.

[Loss of talin in cardiac fibroblasts results in augmented ventricular cardiomyocyte hypertrophy in response to pressure overload.](#)

Noll NA, Riley LA, Moore CS, Zhong L, Bersi MR, West JD, Zent R, Merryman WD.

Am J Physiol Heart Circ Physiol. 2022 May 1;322(5):H857-H866. doi: 10.1152/ajpheart.00632.2021. Epub 2022 Mar 25.

PMID: 35333120

[Mitochondrial Protein Homeostasis and Cardiomyopathy.](#)

Wachoski-Dark E, Zhao T, Khan A, Shutt TE, Greenway SC.

Int J Mol Sci. 2022 Mar 20;23(6):3353. doi: 10.3390/ijms23063353.

PMID: 35328774 Free PMC article. Review.

[Methods for the identification and characterization of extracellular vesicles in cardiovascular studies - from exosomes to microvesicles.](#)

Davidson SM, Boulanger CM, Aikawa E, Badimon L, Barile L, Binder CJ, Brisson A, Buzas E, Emanuelli C, Jansen F, Katsur M, Lacroix R, Lim SK, Mackman N, Mayr M, Menasché P, Nieuwland R, Sahoo S, Takov K, Thum T, Vader P, Wauben MHM, Witwer K, Sluijter JPG.

Cardiovasc Res. 2022 Mar 24;cvac031. doi: 10.1093/cvr/cvac031. Online ahead of print.

PMID: 35325061

[Plaque Evaluation by Ultrasound and Transcriptomics Reveals BCLAF1 as a Regulator of Smooth Muscle Cell Lipid Transdifferentiation in Atherosclerosis.](#)

Rykaczewska U, Zhao Q, Saliba-Gustafsson P, Lengquist M, Kronqvist M, Bergman O, Huang Z, Lund K, Waden K, Pons Vila Z, Caidahl K, Skogsberg J, Vukojevic V,

Lindeman JHN, Roy J, Hansson GK, Treuter E, Leeper NJ, Eriksson P, Ehrenborg E, Razuvaev A, Hedin U, Matic L.

Arterioscler Thromb Vasc Biol. 2022 May;42(5):659-676. doi: 10.1161/ATVBAHA.121.317018. Epub 2022 Mar 24.

PMID: 35321563

[Immunoengineering strategies to enhance vascularization and tissue regeneration.](#)

Zarubova J, Hasani-Sadrabadi MM, Ardehali R, Li S.

Adv Drug Deliv Rev. 2022 May;184:114233. doi: 10.1016/j.addr.2022.114233. Epub 2022 Mar 15.

PMID: 35304171 Review.

[The Intriguing Role of TLR Accessory Molecules in Cardiovascular Health and Disease.](#)

Bezhaeva T, Karper J, Quax PHA, de Vries MR.

Front Cardiovasc Med. 2022 Feb 14;9:820962. doi: 10.3389/fcvm.2022.820962. eCollection 2022.

PMID: 35237675 Free PMC article. Review.

[Development of 3D Printed Mitral Valve Constructs for Transcatheter Device Modeling of Tissue and Device Deformation.](#)

Vukicevic M, Mehta SM, Grande-Allen KJ, Little SH.

Ann Biomed Eng. 2022 Apr;50(4):426-439. doi: 10.1007/s10439-022-02927-y. Epub 2022 Feb 26.

PMID: 35220528 Free PMC article.

[Changes in extracellular matrix in failing human non-ischemic and ischemic hearts with mechanical unloading.](#)

Zhao Y, Godier-Furnemont A, Bax NAM, Bouten CVC, Brown LM, Fine B, Vunjak-Novakovic G.

J Mol Cell Cardiol. 2022 May;166:137-151. doi: 10.1016/j.yjmcc.2022.02.003. Epub 2022 Feb 24.

PMID: 35219725

[Immunoreaction to xenogenic tissue in cardiac surgery: alpha-Gal and beyond.](#)

Calafiore AM, Haverich A, Gaudino M, Di Mauro M, Fattouch K, Prapas S, Zilla P.

Eur J Cardiothorac Surg. 2022 Jun 15;62(1):ezac115. doi: 10.1093/ejcts/ezac115.

PMID: 35211732 No abstract available.

[Animal studies for the evaluation of in situ tissue-engineered vascular grafts - a systematic review, evidence map, and meta-analysis.](#)

Koch SE, de Kort BJ, Holshuijsen N, Brouwer HFM, van der Valk DC, Dankers PYW, van Luijk JAKR, Hooijmans CR, de Vries RBM, Bouten CVC, Smits AIPM.

NPJ Regen Med. 2022 Feb 23;7(1):17. doi: 10.1038/s41536-022-00211-0.

PMID: 35197483

[Interfering in the ALK1 Pathway Results in Macrophage-Driven Outward Remodeling of Murine Vein Grafts.](#)

de Jong A, Sier VQ, Peters HAB, Schilder NKM, Jukema JW, Goumans MJTH, Quax PHA, de Vries MR.

Front Cardiovasc Med. 2022 Feb 3;8:784980. doi: 10.3389/fcvm.2021.784980. eCollection 2021.

PMID: 35187106 Free PMC article.

[Osteomodulin attenuates smooth muscle cell osteogenic transition in vascular calcification.](#)

Skenteris NT, Seime T, Witasp A, Karlöf E, Wasilewski GB, Heuschkel MA, Jaminon AMG, Oduor L, Dzhanayev R, Kronqvist M, Lengquist M, Peeters FECM, Söderberg M, Hultgren R, Roy J, Maegdefessel L, Arnardottir H, Bengtsson E, Goncalves I, Quertermous T, Goettsch C, Stenvinkel P, Schurgers LJ, Matic L.

Clin Transl Med. 2022 Feb;12(2):e682. doi: 10.1002/ctm2.682.

PMID: 35184400 Free PMC article.

[Engineering tissue morphogenesis: taking it up a Notch.](#)

Tiemeijer LA, Sanlidag S, Bouten CVC, Sahlgren CM.

Trends Biotechnol. 2022 Aug;40(8):945-957. doi: 10.1016/j.tibtech.2022.01.007.  
Epub 2022 Feb 15.

PMID: 35181146 Free PMC article. Review.

[N-6-Methyladenosine in Vasoactive microRNAs during Hypoxia; A Novel Role for METTL4.](#)

van den Homberg DAL, van der Kwast RVCT, Quax PHA, Nossent AY.

Int J Mol Sci. 2022 Jan 19;23(3):1057. doi: 10.3390/ijms23031057.

PMID: 35162982 Free PMC article.

[A computational model of cardiomyocyte metabolism predicts unique reperfusion protocols capable of reducing cell damage during ischemia/reperfusion.](#)

Grass M, McDougal AD, Blazeski A, Kamm RD, García-Cardena G, Dewey CF Jr.

J Biol Chem. 2022 May;298(5):101693. doi: 10.1016/j.jbc.2022.101693. Epub 2022 Feb 11.

PMID: 35157851 Free PMC article.

[Prothymosin Alpha: A Novel Contributor to Estradiol Receptor Alpha-Mediated CD8<sup>+</sup> T-Cell Pathogenic Responses and Recognition of Type 1 Collagen in Rheumatic Heart Valve Disease.](#)

Passos LSA, Jha PK, Becker-Greene D, Blaser MC, Romero D, Lupieri A, Sukhova GK, Libby P, Singh SA, Dutra WO, Aikawa M, Levine RA, Nunes MCP, Aikawa E.

Circulation. 2022 Feb 15;145(7):531-548. doi:  
10.1161/CIRCULATIONAHA.121.057301. Epub 2022 Feb 14.

PMID: 35157519

[Lipoprotein\(a\) Induces Vesicular Cardiovascular Calcification Revealed With Single-Extracellular Vesicle Analysis.](#)

Rogers MA, Atkins SK, Zheng KH, Singh SA, Chelvanambi S, Pham TH, Kuraoka S, Stroes ESG, Aikawa M, Aikawa E.

Front Cardiovasc Med. 2022 Jan 28;9:778919. doi: 10.3389/fcvm.2022.778919. eCollection 2022.

PMID: 35155626 Free PMC article.

[Luteolin activates M2 macrophages and suppresses M1 macrophages by upregulation of hsa\\_circ\\_0001326 in THP-1 derived macrophages.](#)

Gong B, Zheng Y, Li J, Lei H, Liu K, Tang J, Peng Y.

Bioengineered. 2022 Mar;13(3):5079-5090. doi: 10.1080/21655979.2022.2036897.

PMID: 35152837 Free PMC article.

[Role of Extracellular Vesicles in the Pathogenesis of Vascular Damage.](#)

Buffolo F, Monticone S, Camussi G, Aikawa E.

Hypertension. 2022 May;79(5):863-873. doi: 10.1161/HYPERTENSIONAHA.121.17957. Epub 2022 Feb 11.

PMID: 35144490 Review.

[Second Heart Field-Derived Cells Contribute to Angiotensin II-Mediated Ascending Aortopathies.](#)

Sawada H, Katsumata Y, Higashi H, Zhang C, Li Y, Morgan S, Lee LH, Singh SA, Chen JZ, Franklin MK, Moorlegghen JJ, Howatt DA, Rateri DL, Shen YH, LeMaire SA, Aikawa M, Majesky MW, Lu HS, Daugherty A.

Circulation. 2022 Mar 29;145(13):987-1001. doi: 10.1161/CIRCULATIONAHA.121.058173. Epub 2022 Feb 10.

PMID: 35143327

[RBFOX2 is required for establishing RNA regulatory networks essential for heart development.](#)

Verma SK, Deshmukh V, Thatcher K, Belanger KK, Rhyner AM, Meng S, Holcomb RJ, Bressan M, Martin JF, Cooke JP, Wythe JD, Widen SG, Lincoln J, Kuyumcu-Martinez MN.

Nucleic Acids Res. 2022 Feb 28;50(4):2270-2286. doi: 10.1093/nar/gkac055.

PMID: 35137168 Free PMC article.

[Poly-2-methyl-2-oxazoline-modified bioprosthetic heart valve leaflets have enhanced biocompatibility and resist structural degeneration.](#)

Zakharchenko A, Xue Y, Keeney S, Rock CA, Alferiev IS, Stachelek SJ, Takano H, Thomas T, Nagaswami C, Krieger AM, Chorny M, Ferrari G, Levy RJ.

Proc Natl Acad Sci U S A. 2022 Feb 8;119(6):e2120694119. doi: 10.1073/pnas.2120694119.

PMID: 35131859 Free PMC article.

[Computational Screening Strategy for Drug Repurposing Identified Niclosamide as Inhibitor of Vascular Calcification.](#)

Tanaka T, Asano T, Okui T, Kuraoka S, Singh SA, Aikawa M, Aikawa E.

Front Cardiovasc Med. 2022 Jan 20;8:826529. doi: 10.3389/fcvm.2021.826529. eCollection 2021.

PMID: 35127876 Free PMC article.

[Proinflammatory Matrix Metalloproteinase-1 Associates With Mitral Valve Leaflet Disruption Following Percutaneous Mitral Valvuloplasty.](#)

Passos LSA, Becker-Greene D, Braulio R, Le TD, Gelape CL, de Almeida LFR, Rocha DPA, Gomes CAP, Esteves WAM, Passaglia LG, Dal-Bianco JP, Levine RA, Aikawa M, Hung J, Dutra WO, Nunes MCP, Aikawa E.

Front Cardiovasc Med. 2022 Jan 20;8:804111. doi: 10.3389/fcvm.2021.804111. eCollection 2021.

PMID: 35127864 Free PMC article.

[Hypoxia inducible factor 1 \$\alpha\$  inhibitor PX-478 reduces atherosclerosis in mice.](#)

Villa-Roel N, Ryu K, Gu L, Fernandez Esmerats J, Kang DW, Kumar S, Jo H.

Atherosclerosis. 2022 Mar;344:20-30. doi: 10.1016/j.atherosclerosis.2022.01.002. Epub 2022 Jan 21.

PMID: 35121387

[Methods for Quantifying Neutrophil Extracellular Traps on Biomaterials.](#)

Fetz AE, King WE 3rd, Minden-Birkenmaier BA, Bowlin GL.

Methods Mol Biol. 2022;2394:727-742. doi: 10.1007/978-1-0716-1811-0\_38.

PMID: 35094355

[Medial Arterial Calcification: A Significant and Independent Contributor of Peripheral Artery Disease.](#)

St Hilaire C.

Arterioscler Thromb Vasc Biol. 2022 Mar;42(3):253-260. doi: 10.1161/ATVBAHA.121.316252. Epub 2022 Jan 27.

PMID: 35081727 Review.

[Regional heterogeneity in determinants of atrial matrix remodeling and association with atrial fibrillation vulnerability postmyocardial infarction.](#)

Stacy MR, Lin BA, Thorn SL, Lobb DC, Maxfield MW, Novack C, Zellars KN, Freeburg L, Akar JG, Sinusas AJ, Spinale FG.

Heart Rhythm. 2022 May;19(5):847-855. doi: 10.1016/j.hrthm.2022.01.022. Epub 2022 Jan 21.

PMID: 35066183

[Targeting mechanosensitive endothelial TXNDC5 to stabilize eNOS and reduce atherosclerosis in vivo.](#)

Yeh CF, Cheng SH, Lin YS, Shentu TP, Huang RT, Zhu J, Chen YT, Kumar S, Lin MS, Kao HL, Huang PH, Roselló-Sastre E, Garcia F, Jo H, Fang Y, Yang KC.

Sci Adv. 2022 Jan 21;8(3):eabl8096. doi: 10.1126/sciadv.abl8096. Epub 2022 Jan 21.

PMID: 35061532 Free PMC article.

[Identification of Key Genes Associated with Endothelial Cell Dysfunction in Atherosclerosis Using Multiple Bioinformatics Tools.](#)

Zhang G, Yu H, Su J, Chi C, Su L, Wang F, Zheng Y, Xie B, Kang K.

Biomed Res Int. 2022 Jan 10;2022:5544276. doi: 10.1155/2022/5544276.  
eCollection 2022.

PMID: 35059464 Free PMC article.

[Editorial: Comorbidities and Aortic Valve Stenosis: Molecular Mechanism, Risk Factors and Novel Therapeutic Options.](#)

St Hilaire C, Jansen F, Goettsch C.

Front Cardiovasc Med. 2022 Jan 4;8:811310. doi: 10.3389/fcvm.2021.811310.  
eCollection 2021.

PMID: 35059452 Free PMC article. No abstract available.

[Introduction of Mutant GNAQ into Endothelial Cells Induces a Vascular Malformation Phenotype with Therapeutic Response to Imatinib.](#)

Sasaki M, Jung Y, North P, Elsey J, Choate K, Toussaint MA, Huang C, Radi R, Perricone AJ, Corces VG, Arbiser JL.

Cancers (Basel). 2022 Jan 14;14(2):413. doi: 10.3390/cancers14020413.

PMID: 35053574 Free PMC article.

[Perfusable vascular tree like construction in 3D cell-dense tissues using artificial vascular bed.](#)

Tobe Y, Homma J, Sakaguchi K, Sekine H, Iwasaki K, Shimizu T.

Microvasc Res. 2022 May;141:104321. doi: 10.1016/j.mvr.2022.104321. Epub  
2022 Jan 12.

PMID: 35032535

[Novel Valve Choices for Pulmonary Valve Replacement.](#)

Kalfa D.

Semin Thorac Cardiovasc Surg. 2022 Jan 13:S1043-0679(22)00001-6. doi:  
10.1053/j.semtcvs.2021.11.018. Online ahead of print.

PMID: 35032644 No abstract available.

[One-year performance of biorestorative polymeric coronary bypass grafts in an ovine model: correlation between early biomechanics and late serial Quantitative Flow Ratio.](#)

Wu X, Ono M, Poon EKW, O'Leary N, Torii R, Janssen JP, Zhu SJ, Vijgeboom Y, El-Kurdi MS, Cox M, Reinöhl J, Dijkstra J, Barlis P, Wijns W, Reiber JHC, Bourantas CV, Virmani R, Onuma Y, Serruys PW.

Eur J Cardiothorac Surg. 2022 May 27;61(6):1402-1411. doi: 10.1093/ejcts/ezab554.

PMID: 35022681

[Age-related enhanced degeneration of bioprosthetic valves due to leaflet calcification, tissue crosslinking, and structural changes.](#)

Xue Y, Kossar AP, Abramov A, Frasca A, Sun M, Zyablitskaya M, Paik D, Kalfa D, Della Barbera M, Thiene G, Kozaki S, Kawashima T, Gorman JH, Gorman RC, Gillespie MJ, Carreon CK, Sanders SP, Levy RJ, Ferrari G.

Cardiovasc Res. 2022 Jan 10:cvac002. doi: 10.1093/cvr/cvac002. Online ahead of print.

PMID: 35020813

[Stable flow-induced expression of KLK10 inhibits endothelial inflammation and atherosclerosis.](#)

Williams D, Mahmoud M, Liu R, Andueza A, Kumar S, Kang DW, Zhang J, Tamargo I, Villa-Roel N, Baek KI, Lee H, An Y, Zhang L, Tate EW, Bagchi P, Pohl J, Mosnier LO, Diamandis EP, Mihara K, Hollenberg MD, Dai Z, Jo H.

Elife. 2022 Jan 11;11:e72579. doi: 10.7554/eLife.72579.

PMID: 35014606 Free PMC article.

[Quantification of murine myocardial infarct size using 2-D and 4-D high-frequency ultrasound.](#)

Dann MM, Clark SQ, Trzaskalski NA, Earl CC, Schepers LE, Pulente SM, Lennord EN, Annamalai K, Gruber JM, Cox AD, Lorenzen-Schmidt I, Seymour R, Kim KH, Goergen CJ, Mulvihill EE.

Am J Physiol Heart Circ Physiol. 2022 Mar 1;322(3):H359-H372. doi: 10.1152/ajpheart.00476.2021. Epub 2022 Jan 7.

PMID: 34995167

[Aligned human induced pluripotent stem cell-derived cardiac tissue improves contractile properties through promoting unidirectional and synchronous cardiomyocyte contraction.](#)

Takada T, Sasaki D, Matsuura K, Miura K, Sakamoto S, Goto H, Ohya T, Iida T, Homma J, Shimizu T, Hagiwara N.

Biomaterials. 2022 Feb;281:121351. doi: 10.1016/j.biomaterials.2021.121351. Epub 2021 Dec 30.

PMID: 34979417

[Stapled Porcine Pericardium Displays Lower Infectivity In Vitro Than Native and Sutured Porcine Pericardium.](#)

Del Tatto B, Le Roy D, Lambelet M, Corpataux JM, Chakfé N, Giulieri S, Allagnat F, Roger T, Saucy F.

J Surg Res. 2022 Apr;272:132-138. doi: 10.1016/j.jss.2021.11.013. Epub 2021 Dec 29.

PMID: 34973547

[AIM2 Inflammasome Activation Contributes to Aortic Dissection in a Sporadic Aortic Disease Mouse Model.](#)

Ageedi W, Zhang C, Frankel WC, Dawson A, Li Y, Coselli JS, Shen HY, LeMaire SA.

J Surg Res. 2022 Apr;272:105-116. doi: 10.1016/j.jss.2021.10.020. Epub 2021 Dec 25.

PMID: 34963084

[Use of machine learning to classify high-risk variants of uncertain significance in lamin A/C cardiac disease.](#)

Bennett JS, Gordon DM, Majumdar U, Lawrence PJ, Matos-Nieves A, Myers K, Kamp AN, Leonard JC, McBride KL, White P, Garg V.

Heart Rhythm. 2022 Apr;19(4):676-685. doi: 10.1016/j.hrthm.2021.12.019. Epub 2021 Dec 24.

PMID: 34958940

[Restoring anatomical complexity of a left ventricle wall as a step toward bioengineering a human heart with human induced pluripotent stem cell-derived cardiac cells.](#)

Hochman-Mendez C, Mesquita FCP, Morrissey J, da Costa EC, Hulsmann J, Tang-Quan K, Xi Y, Lee PF, Sampaio LC, Taylor DA.

Acta Biomater. 2022 Mar 15;141:48-58. doi: 10.1016/j.actbio.2021.12.016. Epub 2021 Dec 20.

PMID: 34936938

[S-nitrosylation of Hsp90 promotes cardiac hypertrophy in mice through GSK3 \$\beta\$  signaling.](#)

Zhao S, Song TY, Wang ZY, Gao J, Cao JW, Hu LL, Huang ZR, Xie LP, Ji Y.

Acta Pharmacol Sin. 2022 Aug;43(8):1979-1988. doi: 10.1038/s41401-021-00828-9. Epub 2021 Dec 21.

PMID: 34934196

[Cyclosporine Induces Fenestra-Associated Injury in Human Renal Microvessels \*In Vitro\*.](#)

Nagao RJ, Marcu R, Shin YJ, Lih D, Xue J, Arang N, Wei L, Akilesh S, Kaushansky A, Himmelfarb J, Zheng Y.

ACS Biomater Sci Eng. 2022 Jan 10;8(1):196-207. doi: 10.1021/acsbiomaterials.1c00986. Epub 2021 Dec 19.

PMID: 34927415

[Does it still make sense to publish papers on valve bioprostheses with a short-term follow-up?](#)

Santarpino G, Nasso G, Mastroroberto P, Speziale G.

Eur J Cardiothorac Surg. 2022 Jan 24;61(2):425-426. doi: 10.1093/ejcts/ezab537.

PMID: 34897394 No abstract available.

[Calcific aortic valve disease: from molecular and cellular mechanisms to medical therapy.](#)

Kraler S, Blaser MC, Aikawa E, Camici GG, Lüscher TF.

Eur Heart J. 2022 Feb 12;43(7):683-697. doi: 10.1093/eurheartj/ehab757.

PMID: 34849696 Free PMC article.

[Ultrastructural Characteristics of Myocardial Reperfusion Injury and Effect of Selective Intracoronary Hypothermia: An Observational Study in Isolated Beating Porcine Hearts.](#)

El Farissi M, Buscone S, Bax NAM, van Rijswijk JW, Veenendaal T, Keulards DCJ, Zelis JM, van Tuijl S, Eerdeken R, Demandt J, Vervaat F, Zimmermann FM, Bouwmeester S, Rave Y, Zhu KS, Conrad C, van 't Veer M, Pijls NHJ, Klumperman J, Bouten CVC, Otterspoor LC.

Ther Hypothermia Temp Manag. 2022 Jun;12(2):129-137. doi: 10.1089/ther.2021.0025. Epub 2021 Nov 29.

PMID: 34847796

[Mechanical strain triggers endothelial-to-mesenchymal transition of the endocardium in the immature heart.](#)

Vorisek C, Weixler V, Dominguez M, Axt-Fliedner R, Hammer PE, Lin RZ, Melero-Martin JM, Del Nido PJ, Friehs I.

Pediatr Res. 2022 Sep;92(3):721-728. doi: 10.1038/s41390-021-01843-6. Epub 2021 Nov 26.

PMID: 34837068

[PGC1 \$\alpha\$  Regulates the Endothelial Response to Fluid Shear Stress via Telomerase Reverse Transcriptase Control of Heme Oxygenase-1.](#)

Kant S, Tran KV, Kvandova M, Caliz AD, Yoo HJ, Learnard H, Dolan AC, Craige SM, Hall JD, Jiménez JM, St Hilaire C, Schulz E, Kröller-Schön S, Keaney JF Jr.

Arterioscler Thromb Vasc Biol. 2022 Jan;42(1):19-34. doi: 10.1161/ATVBAHA.121.317066. Epub 2021 Nov 18.

PMID: 34789002

[Carbamylated sortilin associates with cardiovascular calcification in patients with chronic kidney disease.](#)

Jankowski V, Saritas T, Kjolby M, Hermann J, Speer T, Himmelsbach A, Mahr K, Heuschkel MA, Schunk SJ, Thirup S, Winther S, Bottcher M, Nyegard M, Nykjaer A, Kramann R, Kaesler N, Jankowski J, Floege J, Marx N, Goettsch C.

Kidney Int. 2022 Mar;101(3):574-584. doi: 10.1016/j.kint.2021.10.018. Epub 2021 Nov 9.

PMID: 34767831

[Differential proteome profile, biological pathways, and network relationships of osteogenic proteins in calcified human aortic valves.](#)

Han RI, Hu CW, Loose DS, Yang L, Li L, Connell JP, Reardon MJ, Lawrie GM, Qutub AA, Morrisett JD, Grande-Allen KJ.

Heart Vessels. 2022 Feb;37(2):347-358. doi: 10.1007/s00380-021-01975-z. Epub 2021 Nov 2.

PMID: 34727208

[C/D box snoRNA SNORD113-6/AF357425 plays a dual role in integrin signalling and arterial fibroblast function via pre-mRNA processing and 2'O-ribose methylation.](#)

van Ingen E, van den Homberg DAL, van der Bent ML, Mei H, Papac-Milicevic N, Kremer V, Boon RA, Quax PHA, Wojta J, Nossent AY.

Hum Mol Genet. 2022 Mar 31;31(7):1051-1066. doi: 10.1093/hmg/ddab304.

PMID: 34673944 Free PMC article.

[Mechano-regulated cell-cell signaling in the context of cardiovascular tissue engineering.](#)

Karakaya C, van Asten JGM, Ristori T, Sahlgren CM, Loerakker S.

Biomech Model Mechanobiol. 2022 Feb;21(1):5-54. doi: 10.1007/s10237-021-01521-w. Epub 2021 Oct 6.

PMID: 34613528 Free PMC article. Review.

[A Computational Framework for Pre-Interventional Planning of Peripheral Arteriovenous Malformations.](#)

Franzetti G, Bonfanti M, Tanade C, Lim CS, Tsui J, Hamilton G, Díaz-Zuccarini V, Balabani S.

Cardiovasc Eng Technol. 2022 Apr;13(2):234-246. doi: 10.1007/s13239-021-00572-5. Epub 2021 Oct 5.

PMID: 34611845 Free PMC article.

[Programmed cell death in aortic aneurysm and dissection: A potential therapeutic target.](#)

Chakraborty A, Li Y, Zhang C, Li Y, LeMaire SA, Shen YH.

J Mol Cell Cardiol. 2022 Feb;163:67-80. doi: 10.1016/j.yjmcc.2021.09.010. Epub 2021 Sep 28.

PMID: 34597613 Free PMC article. Review.

[A Novel Spectral Annotation Strategy Streamlines Reporting of Mono-ADP-ribosylated Peptides Derived from Mouse Liver and Spleen in Response to IFN- \$\gamma\$ .](#)

Kuraoka S, Higashi H, Yanagihara Y, Sonawane AR, Mukai S, Mlynarchik AK, Whelan MC, Hottiger MO, Nasir W, Delanghe B, Aikawa M, Singh SA.

Mol Cell Proteomics. 2022 Apr;21(4):100153. doi: 10.1016/j.mcpro.2021.100153. Epub 2021 Sep 28.

PMID: 34592425 Free PMC article.

[Ciprofloxacin accelerates aortic enlargement and promotes dissection and rupture in Marfan mice.](#)

LeMaire SA, Zhang L, Zhang NS, Luo W, Barrish JP, Zhang Q, Coselli JS, Shen YH.

J Thorac Cardiovasc Surg. 2022 Mar;163(3):e215-e226. doi: 10.1016/j.jtcvs.2020.09.069. Epub 2020 Sep 22.

PMID: 34586071

[PFKFB3 gene deletion in endothelial cells inhibits intraplaque angiogenesis and lesion formation in a murine model of venous bypass grafting.](#)

Perrotta P, de Vries MR, Peeters B, Guns PJ, De Meyer GRY, Quax PHA, Martinet W.

Angiogenesis. 2022 Feb;25(1):129-143. doi: 10.1007/s10456-021-09816-3. Epub 2021 Aug 25.

PMID: 34432198 Free PMC article.

[Association of Regional Wall Shear Stress and Progressive Ascending Aorta Dilation in Bicuspid Aortic Valve.](#)

Soulat G, Scott MB, Allen BD, Avery R, Bonow RO, Malaisrie SC, McCarthy P, Fedak PWM, Barker AJ, Markl M.

JACC Cardiovasc Imaging. 2022 Jan;15(1):33-42. doi: 10.1016/j.jcmg.2021.06.020. Epub 2021 Aug 18.

PMID: 34419402

[Tissue response, macrophage phenotype, and intrinsic calcification induced by cardiovascular biomaterials: Can clinical regenerative potential be predicted in a rat subcutaneous implant model?](#)

Cramer M, Chang J, Li H, Serrero A, El-Kurdi M, Cox M, Schoen FJ, Badylak SF.

J Biomed Mater Res A. 2022 Feb;110(2):245-256. doi: 10.1002/jbm.a.37280. Epub 2021 Jul 29.

PMID: 34323360 Free PMC article.

[Left Ventricular Assist Device Support-Induced Alteration of Mechanical Stress on Aortic Valve and Aortic Wall.](#)

Kainuma A, Itatani K, Hayashi H, Kaku Y, Wu IY, Colombo PC, Ferrari G, Kurlansky P, Yuzefpolskaya M, Takeda K, Naka Y, Akiyama K, Takayama H.

ASAIO J. 2022 Apr 1;68(4):516-523. doi: 10.1097/MAT.0000000000001522.

PMID: 34261872

[Adipogenic Differentiation Alters Properties of Vascularized Tissue-Engineered Skeletal Muscle.](#)

Acosta FM, Howland KK, Stojkova K, Hernandez E, Brey EM, Rathbone CR.

Tissue Eng Part A. 2022 Jan;28(1-2):54-68. doi: 10.1089/ten.TEA.2021.0064. Epub 2021 Aug 25.

PMID: 34102861

[Neutrophil Extracellular Traps: Inflammation and Biomaterial Preconditioning for Tissue Engineering.](#)

Fetz AE, Bowlin GL.

Tissue Eng Part B Rev. 2022 Apr;28(2):437-450. doi: 10.1089/ten.TEB.2021.0013. Epub 2021 May 11.

PMID: 33736452

[Whole Heart Engineering: Advances and Challenges.](#)

Morrissey J, Mesquita FCP, Hochman-Mendez C, Taylor DA.

Cells Tissues Organs. 2022;211(4):395-405. doi: 10.1159/000511382. Epub 2021 Feb 26.

PMID: 33640893 Review.

[The role of flow stasis in transcatheter aortic valve leaflet thrombosis.](#)

Trusty PM, Bhat SS, Sadri V, Salim MT, Funnell E, Kamioka N, Sharma R, Makkar R, Babaliaros V, Yoganathan AP.

J Thorac Cardiovasc Surg. 2022 Sep;164(3):e105-e117. doi: 10.1016/j.jtcvs.2020.10.139. Epub 2020 Nov 26.

PMID: 33342573

[Titin-truncating mutations associated with dilated cardiomyopathy alter length-dependent activation and its modulation via phosphorylation.](#)

Vikhorev PG, Vikhoreva NN, Yeung W, Li A, Lal S, Dos Remedios CG, Blair CA, Guglin M, Campbell KS, Yacoub MH, de Tombe P, Marston SB.

Cardiovasc Res. 2022 Jan 7;118(1):241-253. doi: 10.1093/cvr/cvaa316.

PMID: 33135063 Free PMC article.

[TNAP as a therapeutic target for cardiovascular calcification: a discussion of its pleiotropic functions in the body.](#)

Goettsch C, Strzelecka-Kiliszek A, Bessueille L, Quillard T, Mechtouff L, Pikula S, Canet-Soulas E, Millan JL, Fonta C, Magne D.

Cardiovasc Res. 2022 Jan 7;118(1):84-96. doi: 10.1093/cvr/cvaa299.

PMID: 33070177 Free PMC article. Review.

[Long Non-coding RNAs \(lncRNAs\), A New Target in Stroke.](#)

Wang Z, Li X, Huang L, Liu G, Chen Y, Li B, Zhao X, Xie R, Li Y, Fang W.

Cell Mol Neurobiol. 2022 Apr;42(3):501-519. doi: 10.1007/s10571-020-00954-8. Epub 2020 Aug 31.

PMID: 32865676