

The absence of active creatine kinase system influences cardiac calcium handling

Laasmaa, Martin; Branovets, Jelena; Karro, Niina; Birkedal Nielsen, Rikke; Vendelin, Marko Biophysical journal 2019 / Poster 484 ; p. 96a <https://doi.org/10.1016/j.bpj.2018.11.558>

Altered calcium handling in cardiomyocytes from arginine-glycine amidinotransferase-knockout mice is rescued by creatine

Laasmaa, Martin; Branovets, Jelena; Barsunova, Karina; Karro, Niina; Lygate, Craig A.; Birkedal Nielsen, Rikke; Vendelin, Marko American journal of physiology-heart and circulatory physiology 2020 / p. H805-H825 <https://doi.org/10.1152/ajpheart.00300.2020>
[Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Analysis of ADP compartmentation in cardiomyocytes and its role in protection against mitochondrial permeability transition pore opening = ADP kompartmentatsiooni analüüs südamelihaskududes ja selle roll mitokondriaalse suure läbitavusega poori avanemise eest kaitsmisel

Karro, Niina 2015 <https://digi.lib.ttu.ee/ii/?3423> https://www.ester.ee/record=b4500337*est

Cardiac expression and location of hexokinase changes in a mouse model of pure creatine deficiency

Branovets, Jelena; Karro, Niina; Barsunova, Karina; Laasmaa, Martin; Lygate, Craig A.; Vendelin, Marko; Birkedal Nielsen, Rikke American journal of physiology-heart and circulatory physiology 2021 / p. H613-H629 <https://doi.org/10.1152/ajpheart.00188.2020>
[Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Cardiomyocytes from female compared to male mice have larger ryanodine receptor clusters and higher calcium spark frequency

Laasmaa, Martin; Branovets, Jelena; Stolova, Jekaterina; Shen, Xin; Rätsepso, Triinu; Balodis, Mihkel Jaan; Grahv, Cärolin; Hendrikson, Eliise; Louch, William Edward; Birkedal Nielsen, Rikke; Vendelin, Marko Journal of Physiology 2023 / p. 4033-4052 : ill <https://doi.org/10.1113/JP284515> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Compromised creatine kinase energy transfer leads to adaptations in cardiac excitation-contraction coupling that are distinct from changes associated with heart failure : [manuscript]

Branovets, Jelena; Kalda, Mari; Laasmaa, Martin; Stolova, Jekaterina; Shen, Xin; Balodis, Mihkel Jaan; Grahv, Cärolin; Hendrikson, Eliise; Louch, William Edward; Birkedal Nielsen, Rikke; Vendelin, Marko 2022

Energetics and calcium handling in hearts from creatine-deficient mice = Energeetika ja kaltsiumi käitlemine kreatiini puudulike hiirte südames

Branovets, Jelena 2022 <https://doi.org/10.23658/taltech.56/2022> <https://digikogu.taltech.ee/et/item/36325289-f635-4816-bddc-2246206e6dc1> https://www.ester.ee/record=b5511927*est

The influence of alternative energy transfer systems on respiration in creatine-deficient mouse cardiomyocytes

Branovets, Jelena; Jugai, Svetlana; Vendelin, Marko; Birkedal Nielsen, Rikke Biophysical journal 2016 / p. 474a-475a <https://doi.org/10.1016/j.bpj.2015.11.2538>

Intracellular compartmentalization shapes energy transfer – differences between adenylate kinase activities in homogenate and permeabilized cardiomyocytes : [manuscript]

Branovets, Jelena; Vendelin, Marko; Birkedal Nielsen, Rikke 2022

IOCBIO Kinetics : an open-source software solution for analysis of data traces

Vendelin, Marko; Laasmaa, Martin; Kalda, Mari; Branovets, Jelena; Karro, Niina; Barsunova, Karina; Birkedal Nielsen, Rikke PLoS computational biology 2020 / art. e1008475 <https://doi.org/10.1371/journal.pcbi.1008475> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

IOCBIO Sparks detection and analysis software

Laasmaa, Martin; Karro, Niina; Birkedal Nielsen, Rikke; Vendelin, Marko PeerJ 2019 / art. e6652, 28 p. : ill <https://doi.org/10.7717/peerj.6652> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

IOCBIO Sparks detection and analysis software

Laasmaa, Martin; Karro, Niina; Birkedal Nielsen, Rikke; Vendelin, Marko Biophysical journal 2019 / art. 1900-Pos ; p. 384a <https://doi.org/10.1016/j.bpj.2018.11.2080>

Marker enzyme activities in hindleg from creatine-deficient AGAT and GAMT KO mice - differences between models, muscles, and sexes

Barsunova, Karina; Vendelin, Marko; Birkedal Nielsen, Rikke Scientific reports 2020 / Art. 7956, 9 p <https://doi.org/10.1038/s41598-020-64740-8> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Metabolic compartmentation in rainbow trout cardiomyocytes : coupling of hexokinase but not creatine kinase to mitochondrial respiration

Karro, Niina; Sepp, Mervi; Jugai, Svetlana; Laasmaa, Martin; Vendelin, Marko; Birkedal Nielsen, Rikke Journal of comparative physiology B 2017 / p. 103-116 : ill <https://doi.org/10.1007/s00360-016-1025-x> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

[metrics at WOS](#) [Article at WOS](#)

Number of open mitochondrial voltage-dependent anion channels and intracellular diffusion coefficient in heart muscle
Simson, Päivo; Jepihhina, Natalja; Laasmaa, Martin; Branovets, Jelena; Peterson, Pearu; Birkedal Nielsen, Rikke; Vendelin, Marko Biophysical journal 2016 / p. 475a <https://doi.org/10.1016/j.bpj.2015.11.2540>

Ontogeny of cardiomyocytes : ultrastructure optimization to meet the demand for tight communication in excitation–contraction coupling and energy transfer

Birkedal Nielsen, Rikke; Laasmaa, Martin; Branovets, Jelena; Vendelin, Marko Philosophical Transactions of the Royal Society B : Biological Sciences 2022 / art. 20210321 <https://doi.org/10.1098/rstb.2021.0321> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Rat and mouse cardiomyocytes show subtle differences in creatine kinase expression and compartmentalization

Branovets, Jelena; Soodla, Kārol; Vendelin, Marko; Birkedal Nielsen, Rikke PLoS ONE 2023 / art. e0294718
<https://doi.org/10.1371/journal.pone.0294718> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Respiration of permeabilized cardiomyocytes from mice: no sex differences, but substrate-dependent changes in the apparent ADP-affinity

Karro, Niina; Laasmaa, Martin; Vendelin, Marko; Birkedal Nielsen, Rikke Scientific reports 2019 / art. 12592
<https://doi.org/10.1038/s41598-019-48964-x> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Restricted ADP movement in cardiomyocytes : cytosolic diffusion obstacles are complemented with a small number of open mitochondrial voltage-dependent anion channels

Simson, Päivo; Jepihhina, Natalja; Laasmaa, Martin; Peterson, Pearu; Birkedal Nielsen, Rikke; Vendelin, Marko Journal of molecular and cellular cardiology 2016 / p. 197-203 : ill <https://doi.org/10.1016/j.yjmcc.2016.04.012> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Revealing aspects of cardiac function from fluorescence and electrophysiological recordings = Südamealalituse uuringud fluorestsentsi ja elektrofüsioloogiliste mõõtmiste abil

Laasmaa, Martin 2016 http://www.eester.ee/record=b4632325*est <https://digikogu.taltech.ee/et/Item/5e9f5bd2-8295-4f7e-8f6d-65d0b8002a74>

Revealing calcium fluxes by analyzing inhibition dynamics in action potential clamp

Laasmaa, Martin; Birkedal Nielsen, Rikke; Vendelin, Marko Journal of molecular and cellular cardiology 2016 / p. 93-108 : ill <https://doi.org/10.1016/j.yjmcc.2016.08.015> [Journal metrics at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Unchanged mitochondrial organization and compartmentation of high-energy phosphates in creatine-deficient GAMT(-/-) mouse hearts

Branovets, Jelena; Sepp, Mervi; Kotlyarova, Svetlana; Jepihhina, Natalja; Sokolova, Niina; Aksentijevic, Dunja; Neubauer, Stefan; Lygate, Craig A.; Vendelin, Marko; Birkedal Nielsen, Rikke American journal of physiology - heart and circulatory physiology 2013 / p. H506-H520 : ill <https://doi.org/10.1152/ajpheart.00919.2012> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Using action potential clamp data to determine the calcium fluxes and contributions in excitation-contraction coupling in vivo in cardiomyocytes

Laasmaa, Martin; Vendelin, Marko; Birkedal Nielsen, Rikke Biophysical journal 2016 / p. 100a-101a
<http://dx.doi.org/10.1016/j.bpj.2015.11.600>