

ZOLTÁN VARGA



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RESEARCH AREA

We are aiming to explore key inflammatory mechanisms of cardiovascular (heart failure and myocardial infarction) and oncological diseases by using translational animal models, cell cultures, and human samples. We place special emphasis on studying the interconnection of cancer and cardiovascular comorbidities, and investigating the potential pharmacological treatment of these conditions.

TECHNIQUES AVAILABLE IN THE LAB

immunoassays (Western blot, ELISA), qRT-PCR, histological procedures (tissue processing, immunohistochemistry, immunofluorescent staining)
RNA in-situ hybridization, confocal microscopy, flow cytometry,
cell culture models, animal experiments

SELECTED PUBLICATIONS

Onódi, Z., Visnovitz, T., Kiss, B., Hambalkó, S., Koncz, A., Ágg, B., Váradi, B., Tóth, V.É., Nagy, R.N., Gergely, T.G., Gergő, D., Makkos, A., Pelyhe, C., Varga, N., Reé, D., Apáti, Á., Leszek, P., Kovács, T., Nagy, N., Ferdinandy, P., Buzás, E.I., Görbe, A., Giricz, Z., **Varga, Z.V.** (2021) Systematic transcriptomic and phenotypic characterization of human and murine cardiac myocyte cell lines and primary cardiomyocytes reveals serious limitations and low resemblances to adult cardiac phenotype. *J Mol Cell Cardiol* **165**: 19-30.

Onódi, Z., Ruppert, M., Kucsera, D., Sayour, A.A., Tóth, V.E., Koncsos, G., Novák, J., Brenner, G.B., Makkos, A., Baranyai, T., Giricz, Z., Görbe, A., Leszek, P., Gyöngyösi, M., Horváth, I.G., Schulz, R., Merkely, B., Ferdinandy, P., Radovits, T., **Varga, Z.V.** (2021) AIM2-driven inflammasome activation in heart failure. *Cardiovasc Res* **117**: 2639-2651.

van Esbroeck, A.C.M., **Varga, Z.V.**, Di, X., van Rooden, E.J., Tóth, V.E., Onódi, Z., Kuśmierczyk, M., Leszek, P., Ferdinandy, P., Hankemeier, T., van der Stelt, M., Pacher, P. (2020) Activity-based protein profiling of the human failing ischemic heart reveals alterations in hydrolase activities involving the endocannabinoid system. *Pharmacol Res* **151**: 104578. [IF:5.57]

Varga, Z.V., Erdelyi, K., Paloczi, J., Cinar, R., Zsengeller, Z.K., Jourdan, T., Matyas, C., Balazs, N.T., Guillot, A., Xiang, X., Mehal, A., Hasko, G., Stillman, I.E., Rosen, S., Gao, B., Kunos, G., Pacher, P. (2018) Disruption of renal arginine metabolism promotes kidney injury in hepatorenal syndrome. *Hepatology* **68**: 1519-1533.

Valenta, I., **Varga, Z.V.**, Valentine, H., Cinar, R., Horti, A., Mathews, W.B., Dannals, R.F., Steele, K., Kunos, G., Wahl, R.L., Pomper, M.G., Wong, D.F., Pacher, P., Schindler, T.H. (2018) Feasibility Evaluation of Myocardial Cannabinoid Type 1 Receptor Imaging in Obesity: A Translational Approach. *JACC Cardiovasc Imaging* **11**: 320-332.