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Nota di contenuto	About the Editors vii -- Preface to "Animal Models for Study of Pathophysiological Mechanisms of Hypertension and Its Complications" ix -- You-Lin Tain and Chien-Ning Hsu Hypertension of Developmental Origins: Consideration of Gut Microbiome in Animal Models Reprinted from: Biomedicines 2022, 10, 875, doi:10.3390/biomedicines10040875 1 -- Hiroki Ohara and Toru Nabika Genetic Modifications to Alter Blood Pressure Level Reprinted from: Biomedicines 2022, 10, 1855, doi:10.3390/biomedicines10081855 23 -- Yukio Yamori, Miki Sagara, Hideki Mori and Mari Mori Stroke-Prone SHR as Experimental Models for Cardiovascular Disease Risk Reduction in Humans Reprinted from: Biomedicines 2022, 10, 2974, doi:10.3390/biomedicines10112974 45 -- Kenichi Goto and Takanari Kitazono Chloride Ions, Vascular Function and Hypertension Reprinted from: Biomedicines 2022, 10, 2316, doi:10.3390/biomedicines10092316 57 -- Maria Sofia Vieira-Rocha, Joana Beatriz Sousa, Pilar Rodríguez-Rodríguez, Silvia Madaglena Arribas and Carmen Diniz Elevated Vascular Sympathetic Neurotransmission and Remodelling Is a Common Feature in a Rat Model of Foetal Programming of Hypertension and SHR Reprinted from: Biomedicines 2022, 10, 1902, doi:10.3390/biomedicines10081902 73 -- Pilar Rodríguez-Rodríguez, Ignacio Monedero-Cobeta, David Ramiro-Cortijo, Sophida Puthong, Begona~

Quintana-Villamandos, Alicia Gil-Ramirez, Silvia Canas, et al. Slower Growth during Lactation Rescues Early Cardiovascular and Adipose Tissue Hypertrophy Induced by Fetal Undernutrition in Rats Reprinted from: *Biomedicines* 2022, 10, 2504, doi:10.3390/biomedicines10102504 91 -- Nejla Latic, Ana Zupcic, Danny Frauenstein and Reinholt G. Erben Activation of RAAS Signaling Contributes to Hypertension in Aged Hyp Mice Reprinted from: *Biomedicines* 2022, 10, 1691, doi:10.3390/biomedicines10071691 107 -- Nejla Latic, Mirko Peitzsch, Ana Zupcic, Jens Pietzsch and Reinholt G. Erben Long-Term Excessive Dietary Phosphate Intake Increases Arterial Blood Pressure, Activates the Renin-Angiotensin-Aldosterone System, and Stimulates Sympathetic Tone in Mice Reprinted from: *Biomedicines* 2022, 10, 2510, doi:10.3390/biomedicines10102510 119 -- Fedor Simko, Tomas Baka, Peter Stanko, Kristina Repova, Kristina Krajcirovicova, Silvia Aziriova, Oliver Domenig, et al. Sacubitril/Valsartan and Ivabradine Attenuate Left Ventricular Remodelling and Dysfunction in Spontaneously Hypertensive Rats: Different Interactions with the Renin-Angiotensin-Aldosterone System Reprinted from: *Biomedicines* 2022, 10, 1844, doi:10.3390/biomedicines10081844 131 -- Christina Hawlitschek, Julia Brendel, Philipp Gabriel, Katrin Schierle, Aida Salameh, Heinz-Gerd Zimmer and Beate Rassler How Effective Is a Late-Onset Antihypertensive Treatment? Studies with Captopril as Monotherapy and in Combination with Nifedipine in Old Spontaneously Hypertensive Rats Reprinted from: *Biomedicines* 2022, 10, 1964, doi:10.3390/biomedicines10081964 147 -- Beate Rassler, Christina Hawlitschek, Julia Brendel and Heinz-Gerd Zimme How Do Young and Old Spontaneously Hypertensive Rats Respond to Antihypertensive Therapy? Comparative Studies on the Effects of Combined Captopril and Nifedipine Treatment Reprinted from: *Biomedicines* 2022, 10, 3059, doi:10.3390/biomedicines10123059 161 -- Katarina Andelova, Barbara Szeifova Bacova, Matus Sykora, Stanislav Pavelka, Hana Rauchova and Narcis Tribulova Cardiac Cx43 Signaling Is Enhanced and TGF-1/SMAD2/3 Suppressed in Response to Cold Acclimation and Modulated by Thyroid Status in Hairless SHRM Reprinted from: *Biomedicines* 2022, 10, 1707, doi:10.3390/biomedicines10071707 175 -- Hana Mal'nsk'a, Martina Huttli, Irena Markov'a, Denisa Mikl'ankov'a, Silvie Hojn'a, Frantisek Papousek, Jan Silhavy, et al. Beneficial Effects of Empagliflozin Are Mediated by Reduced Renal Inflammation and Oxidative Stress in Spontaneously Hypertensive Rats Expressing Human C-Reactive Protein Reprinted from: *Biomedicines* 2022, 10, 2066, doi:10.3390/biomedicines10092066 195 -- Silvie Hojn'a, Zoe Kotsaridou, Zdenka Vanourkov'a, Hana Rauchov'a, Michal Behuliak, Petr Kujal, Michaela Kadlecov'a, Josef Zicha and Ivana Vaneckov'a Empagliflozin Is Not Renoprotective in Non-Diabetic Rat Models of Chronic Kidney Disease Reprinted from: *Biomedicines* 2022, 10, 2509, doi:10.3390/biomedicines10102509 211 -- Yung-Mei Chao, Hana Rauchov'a and Julie Y. H. Chan Disparate Roles of Oxidative Stress in Rostral Ventrolateral Medulla in Age-Dependent Susceptibility to Hypertension Induced by Systemic L-NAME Treatment in Rats Reprinted from: *Biomedicines* 2022, 10, 2232, doi:10.3390/biomedicines10092232 225 -- Giovanna Castoldi, Raffaella Carletti, Silvia Ippolito, Isabella Villa, Biagio Palmisano, Simona Bolamperti, Alessandro Rubinacci, et al. Angiotensin II Modulates Calcium/Phosphate Excretion in Experimental Model of Hypertension: Focus on Bone Reprinted from: *Biomedicines* 2022, 10, 2928, doi:10.3390/biomedicines10112928 253 -- Jeehye Maeng and Kyunglim Lee Role of Translationally Controlled Tumor Protein (TCTP) in the

Sommario/riassunto

Essential hypertension is still an important health care problem. It is necessary to investigate its mechanisms in animal models. The potential clinical importance of such experimental research might be expected. This Special Issue concerned several important topics. First, several studies focused on the pathophysiological mechanisms responsible for blood pressure elevation during hypertension development, organ damage in chronic hypertension, and drugs targeting hypertension and/or its complications. Other studies were interested in the participation of central and peripheral blood pressure control, changes in vascular structure and function, and neural, humoral, and endocrine factors. Furthermore, the contribution of altered redox signaling, chronic inflammation, microbiome changes, and interactions of genetic and environmental factors were evaluated in multiple papers. Finally, special attention was paid to the progress in pharmacological tools for the control of hypertension and associated organ damage, genetic modifications to alter blood pressure levels, and non-pharmacological interventions attenuating hypertension or its complications. The original articles or reviews covered the interesting aspects of the pathophysiology of hypertension and associated end-organ damage, the use of various experimental hypertensive models, and the importance of specific environmental factors acting in distinct phases of the ontogeny. We especially appreciate the presentation of new ideas and the critical discussion of traditional theories.