

**Professor Luis Michea MD PhD**  
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### **Research Team**

Magdalena González MSc  
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Víctor Barrientos  
Eugenia Fuentes  
Daniela Peña DVM  
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Daniel Hevia PhDc  
Pablo Díaz PhDc  
Patricio Araos PhDc

### **Clinical collaborators**

Angela Delucchi MD  
M Eugenia Sanhueza MD  
Miriam Alvo MD  
Andrés Moreno MD  
Jacqueline Pefaur MD

### **Research Focus**

Physiological and pathophysiological mechanism of hypertension and kidney damage. Role of aldosterone and aldosterone receptors, inflammation in hypertensive disease, inflammatory mechanisms implicated in chronic kidney disease. Vascular calcification associated to chronic kidney disease. Renal function after kidney transplant.

### **Facilities**

Our laboratory consists of approximately 4000 sq. ft. of open space within the Institute of Biomedical Sciences, at Facultad de Medicina, Universidad de Chile, Santiago, Chile. The laboratory space includes animal procedure rooms and a large equipment galley: all the equipment for RNA and protein analysis, including real-time PCR machines, thermocyclers, SDS-PAGE/Western blot units and a chemiluminescence imager, microplate multimode reader, etc. Cell biology and cell physiology equipment, including tissue culture facility, microscopes and ussing chamber system. Equipment for metabolic studies, tail cuff and intra-arterial blood pressure measuring and osmometer is also available. There are core facilities for electron microscopy, confocal microscopy and other imaging systems plus separate animal facilities for rats and mice.

### **Expertise**

Experimental models of hypertension in mice and rats, *ex vivo* vascular experiments (resistance and larger arteries), chronic and acute renal failure experimental models, transport studies (electrophysiology and radiotracer), cell biology and molecular biology. Clinical studies in nephrology.

### **Publications**

Amador CA, Barrientos V, Peña J, Herrada AA, González M, Valdés S, Carrasco L, Alzamora R, Figueroa F, Kalergis AM, **Michea L**. Spironolactone Decreases DOCA-Salt-Induced Organ Damage by Blocking the Activation of T Helper 17 and the Downregulation of Regulatory T Lymphocytes. *Hypertension* 2014, 63(4).

Mericq V, Salas P, Pinto V, Cano F, Reyes L, Brown K, Gonzalez M, **Michea L**, Delgado I, Delucchi A. Steroid withdrawal in pediatric kidney transplant allows better growth, lipids and body composition: a randomized controlled trial. *Horm Res Paediatr* 2013, 79(2):88-96.

Vukusich A, Kunstmann S, Varela C, Gainza D, Bravo S, Sepulveda D, Cavada G, **Michea L**, Marusic ET. A randomized, double-blind, placebo-controlled trial of spironolactone on carotid intima-media thickness in nondiabetic hemodialysis patients.  
*Clin J Am Soc Nephrol* 2010, 5(8):1380-7.

Pérez FR, Venegas F, González M, Andrés S, Vallejos C, Riquelme G, Sierralta J, **Michea L**. Endothelial epithelial sodium channel inhibition activates endothelial nitric oxide synthase via phosphoinositide 3-kinase/Akt in small-diameter mesenteric arteries.  
*Hypertension* 2009, 53(6):1000-7.

**Website:** <http://www.cmcmed.cl/lab8.php>.