



Molecular and translational medicine

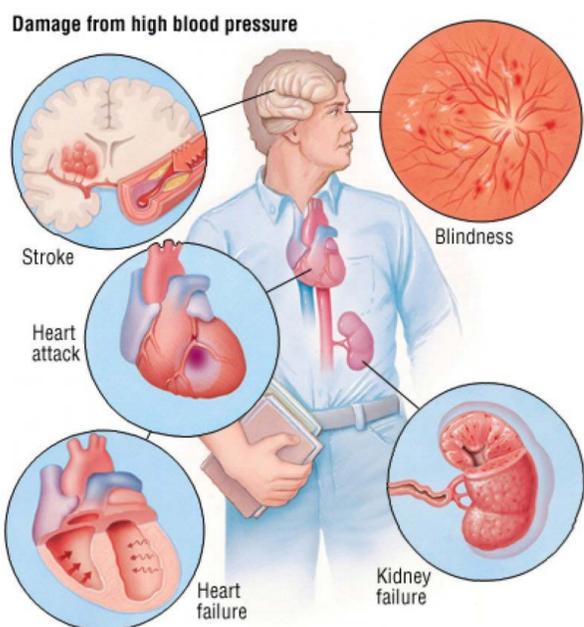
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Group: 3 Ass. Prof, 4 postdocs, 1 PhD, 1 research year student



Hypertension and kidney disease



- Hypertension (HTN), is the greatest contributor to premature death and disability in the world – but the basis of HTN is unknown, and current treatment strategies are suboptimal.
- The most common risk factor for HTN is excessive sodium (Na^+) in the body due to increased dietary intake and/or impaired excretion by the kidney. Low potassium (K^+) consumption also plays a role.
- There is increasing recognition of an important gastrointestinal–renal axis for maintaining BP, but the basis of this is unclear.
- HTN is also a major risk factor for chronic kidney disease (CKD) - an increasingly frequent major global health burden – but interventions that can prevent or improve CKD are still limited.

Research focus:

The molecular regulation of epithelial cell function by membrane proteins, the signaling mechanisms involved and how their dysfunction is central to the development of HTN and CKD.

Projects and techniques

We are constantly seeking good, highly motivated Master's, PhD, and research year students for a variety of projects. Projects will be adapted to individual students interests, input or background. Several of the projects are at the interface between clinical/basic science and involve collaboration with international partners – with research stays abroad integrated into project plans

Projects include:

- Use of urinary exosomes to assess the beneficial effects of potassium diets in humans
- Targeting prostaglandins in onset and progression of CKD
- Role of the Na^+H^+ exchanger in intestinal:kidney crosstalk

Techniques: A variety of approaches (cell biology, proteomics, imaging, transgenic/disease animal models, clinical chemistries coupled to clinical cohorts) are used to systematically assess the molecular regulation and role of specific membrane proteins from the cellular to clinical level.



Publications



Examples of collaborators



About PI



Further info

