

Approaches to Identifying Possible Mechanisms of Kidney Damage

Mellisa Manson

Virginia Commonwealth University

Goal of Research

- Groundwork for finding a mechanism of kidney damage
- Aid in understanding hypertension
- Aid in understanding problems in kidney function

Background

- Function of the kidney
 - Normal
 - Hypertension
- Possible Markers
 - S1P1
 - Hypoxyprobe
 - Caspase-3

Methods

- Immunohistochemistry
 - Preservation and Slide Preparation
 - Deparaffination
 - Antigen Retrieval
 - Staining
 - Block Serum
 - Primary Antibody
 - Secondary Antibody
 - Hematoxylin

S1P1

- Endothelial Marker
- Expressed all over body
- Role at kidney
- Possible Mechanisms

Hypoxyprobe

- Marker for hypoxia
- Distribution
- Role at kidney
- Possible Mechanism

100x Low Salt

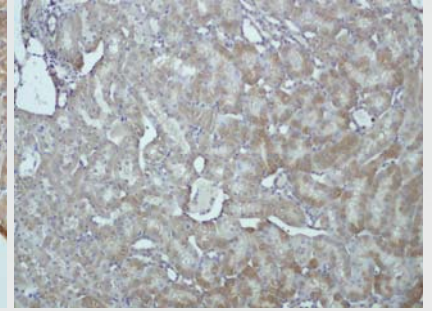
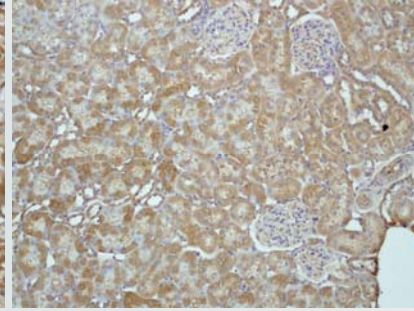
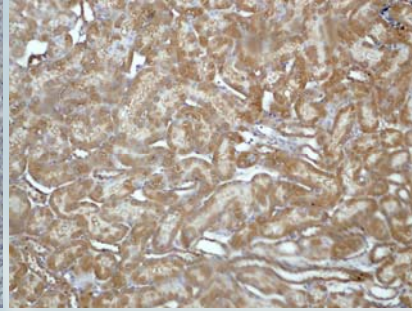
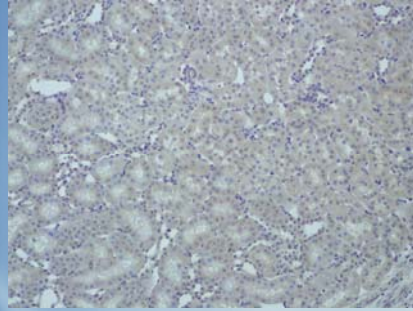
Negative

Hypoxyprobe
1:16000

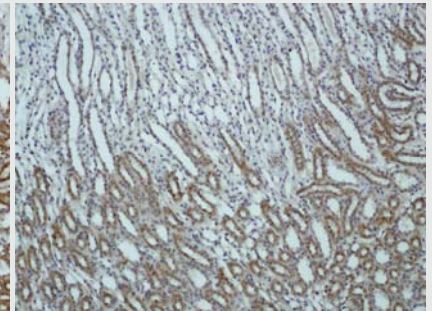
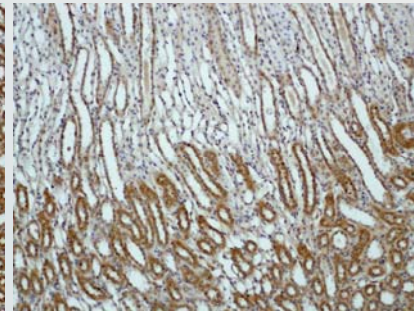
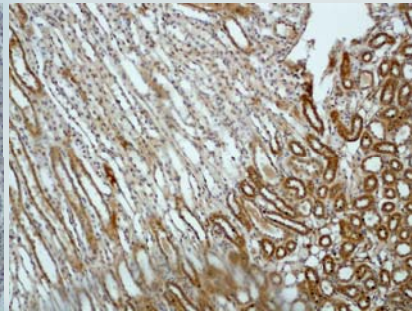
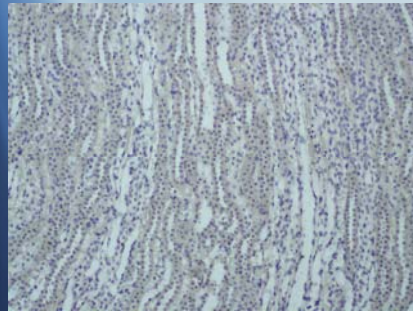
Hypoxyprobe
1:32000

Hypoxyprobe
1:64000

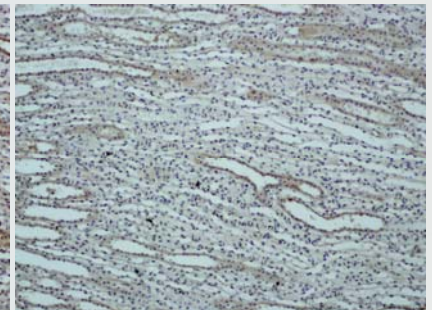
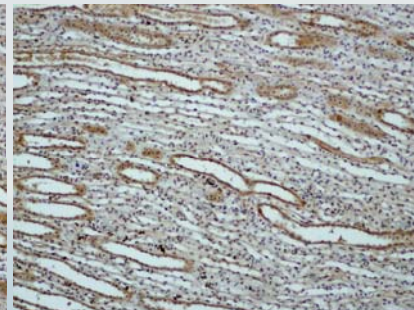
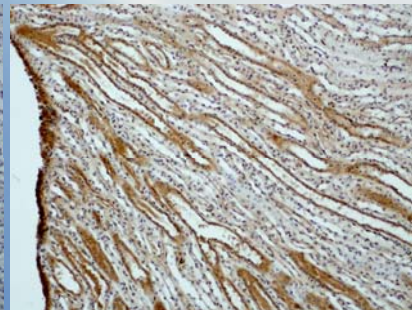
Cortex



Medulla

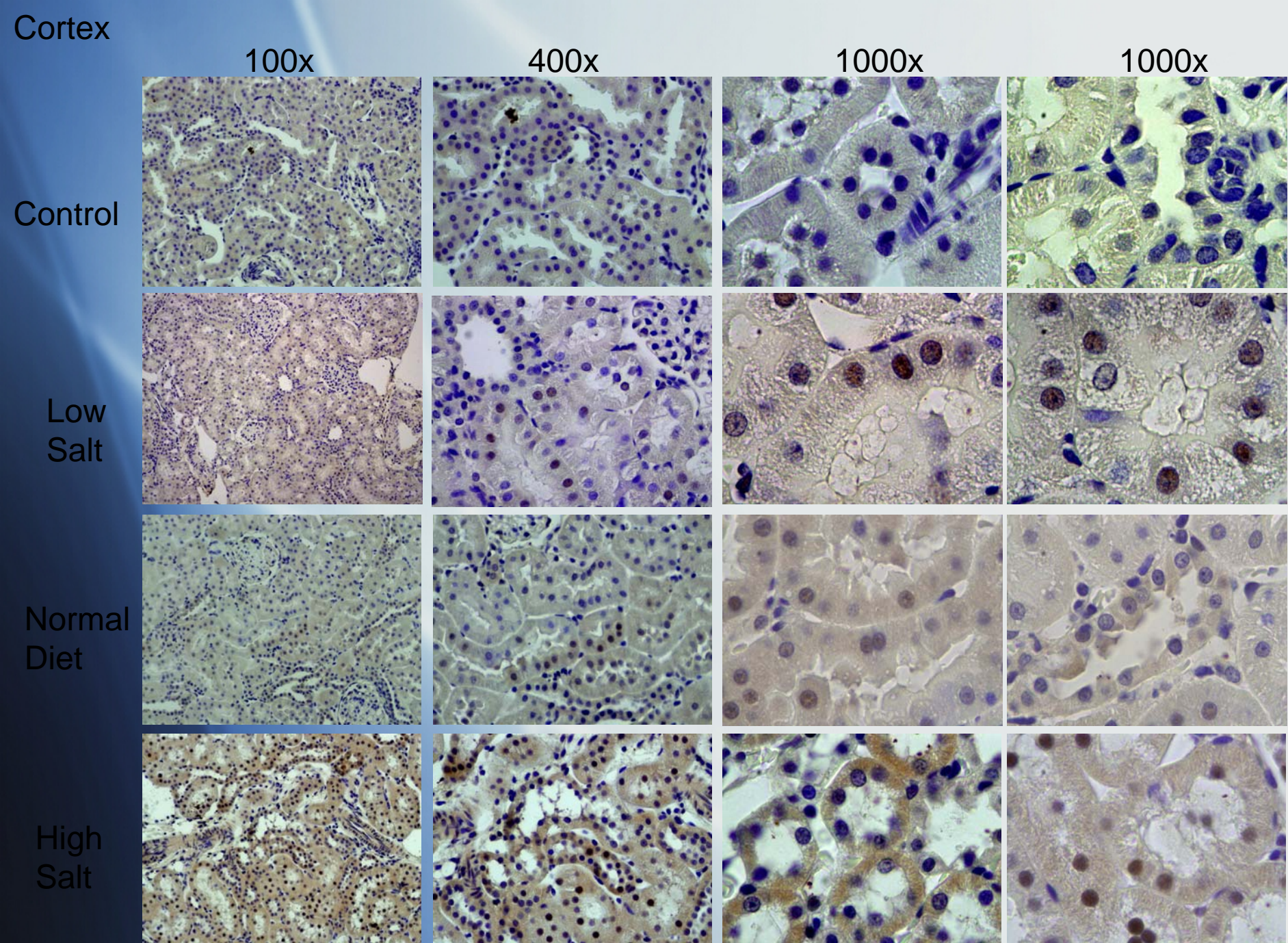


Papilla



Caspase-3

- Marker for substance essential to apoptosis
- Distribution
- Role at kidney
- Possible Mechanism



Conclusion

- Substances and the trends in their presence
 - Ways to combat hypertension
- S1P1 receptors
- Hypoxia
- Apoptosis