Approaches to Identifying Possible Mechanisms of Kidney Damage

Mellisa Manson
Virginia Comonwealth 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
  - Deparaffinization
  - Antigen Retrieval
- Staining
  - Block Serum
  - Primary Antibody
  - Secondary Antibody
  - Hematoxylin
S1P1

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

- Marker for hypoxia
- Distribution
- Role at kidney
- Possible Mechanism
100x Low Salt

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<tr>
<th></th>
<th>Negative</th>
<th>Hypoxyprobe 1:16000</th>
<th>Hypoxyprobe 1:32000</th>
<th>Hypoxyprobe 1:64000</th>
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<tr>
<td><strong>Cortex</strong></td>
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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