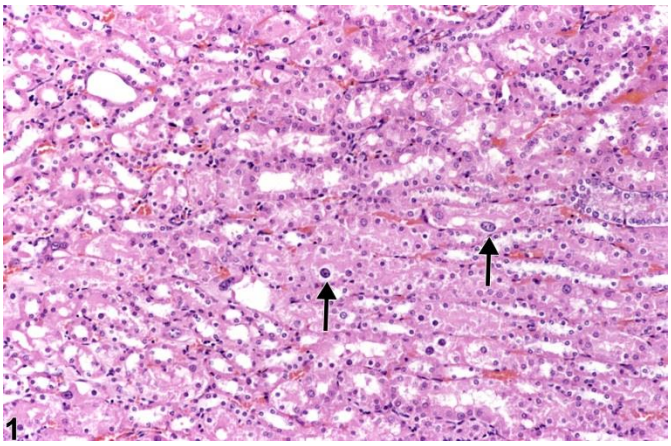
Kidney – Karyomegaly



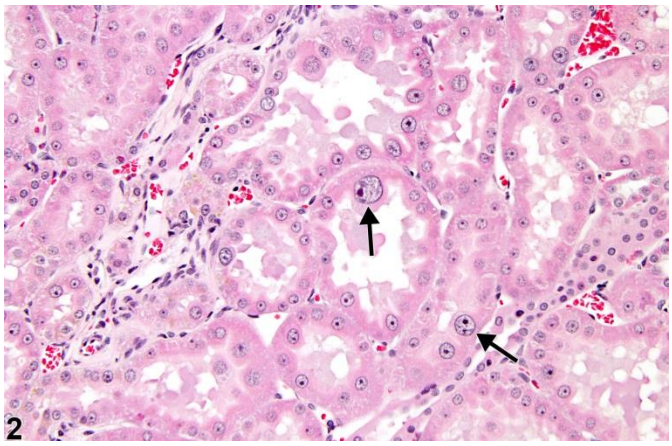


Figure Legend: **Figure 1** Kidney - Karyomegaly in a male B6C3F1 mouse from a chronic study. Numerous enlarged nuclei (karyomegaly) are present in the renal tubular epithelium. **Figure 2** Kidney - Karyomegaly in a male F344/N rat from a subchronic study. Karyomegaly is present in several tubular epithelial cells.

Comment: Karyomegaly is presumed to result from nucleic acid replication without nuclear division. It is characterized by marked enlargement of nuclei observed predominantly in the proximal convoluted tubule cells (Figure 1). Affected nuclei are often hyperchromatic with multiple nucleoli (Figure 2). Karyomegaly has been associated with chemical administration. It is generally considered preneoplastic, leading to tubule neoplasia in chronic studies.

Recommendation: Karyomegaly should be diagnosed and given a severity grade whenever present. Details of the karyomegaly should be discussed in the pathology narrative (e.g., the tubular segment affected).

References:

Frazier KS, Seely JC, Hard GC, Betton G, Burnett R, Nakatsuji S, Nishikawa A, Durchfeld-Meyer B, Bube A. (2012) Proliferative and non-proliferative lesions in the rat and mouse urinary system. Toxicol Pathol 40:14S-86S.
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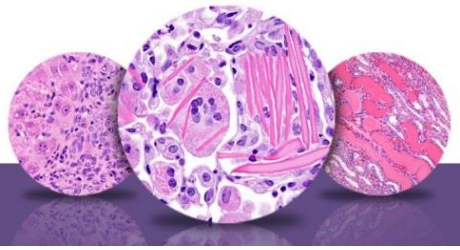
Hard GC, Alden CL, Bruner RH, Frith CH, Lewis RM, Owen RA, Krieg K, Durchfeld-Meyer B. 1999. Non-proliferative lesions of the kidney and lower urinary tract in rats. In: Guides for Toxicologic Pathology. STP/ARP/AFIP, Washington, DC, 1-32.



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