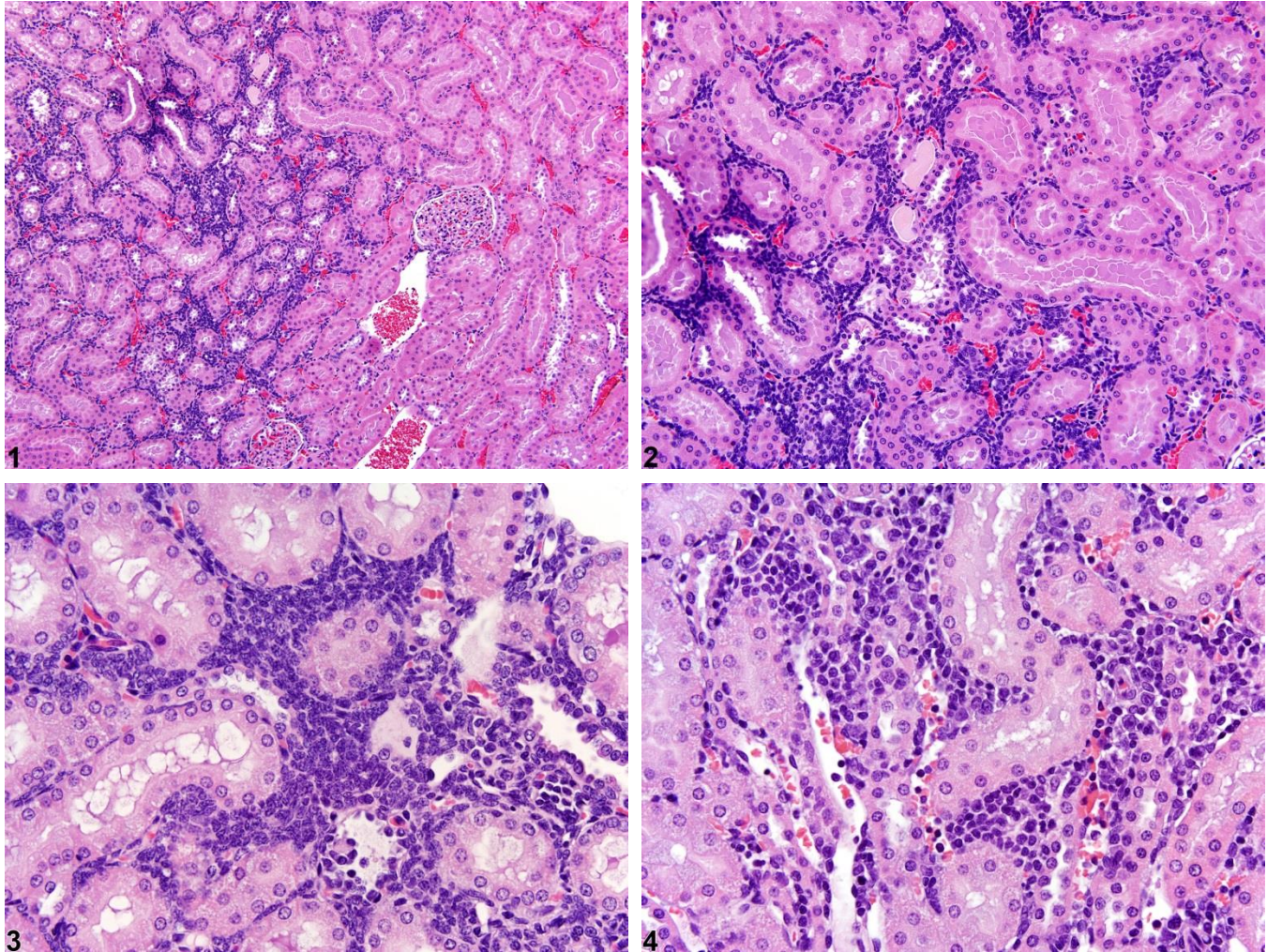


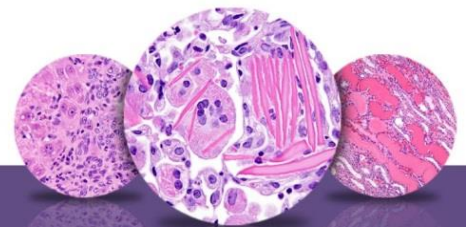


# NTP Nonneoplastic Lesion Atlas

## Kidney – Nephroblastematosi



**Figure Legend:** **Figure 1** Kidney - Nephroblastematosi in a female Harlan Sprague-Dawley rat from a subchronic study. An area of dense basophilic cellularity can be seen in the renal cortex. **Figure 2** Kidney - Nephroblastematosi in a female Harlan Sprague-Dawley rat from a subchronic study. The cells are deeply basophilic and uniform in morphology. They are infiltrating between renal tubules, and no organoid differentiation of the lesion can be recognized. **Figure 3** Kidney - Nephroblastematosi in a female Harlan Sprague-Dawley rat from a subchronic study. At higher magnification, the cells in nephroblastematosi have indistinct cell margins and cytoplasm, round to oval nuclei with stippled chromatin, and often a prominent nucleolus. **Figure 4** Kidney - Infiltration, Cellular, Mononuclear in a female Harlan Sprague-Dawley rat from a subchronic study. This higher magnification of mononuclear



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cell infiltration, characterized by a heterogeneous population of cells in the kidney and small blood vessels, is for comparison with Figures 1 - 3.

**Comment:** Nephroblastematosi can be a spontaneous lesion and is the presumptive precursor lesion of nephroblastoma. On low power, nephroblastematosi appears as an area of densely basophilic cellularity (Figure 1 and Figure 2). On higher magnification, uniform cells are seen infiltrating between renal tubules and are characterized by having indistinct cell margins and cytoplasm and round to oval nuclei with stippled chromatin (Figure 3). The distinction between nephroblastematosi and nephroblastoma is somewhat arbitrary and depends on differentiation into any organoid (tubule, glomeruloid) structures, which is seen in nephroblastematosi, and the overall size of the lesion. Differentiation from other lesions such as cellular infiltrates, inflammation, or lymphoma usually depends on the presence of a more heterogeneous population of cell types, which often have a focal to multifocal perivascular distribution, and/or the presence of associated cells in blood vessels within the lesion (Figure 4).

**Recommendation:** Nephroblastematosi should be diagnosed whenever present and given a severity grade.

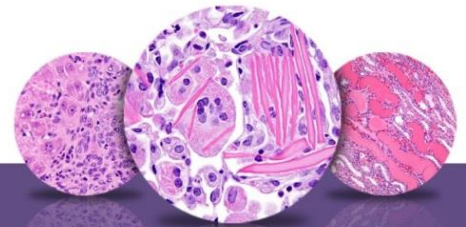
### **References:**

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.

Abstract: <http://www.ncbi.nlm.nih.gov/pubmed/22637735>

Mesfin GM. 1999. Intralobar nephroblastematosi: Precursor lesion of nephroblastoma in the Sprague-Dawley rat. *Vet Pathol* 36:379-390.

Abstract: <http://www.ncbi.nlm.nih.gov/pubmed/10490205>



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## *Kidney – Nephroblastematosi*

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