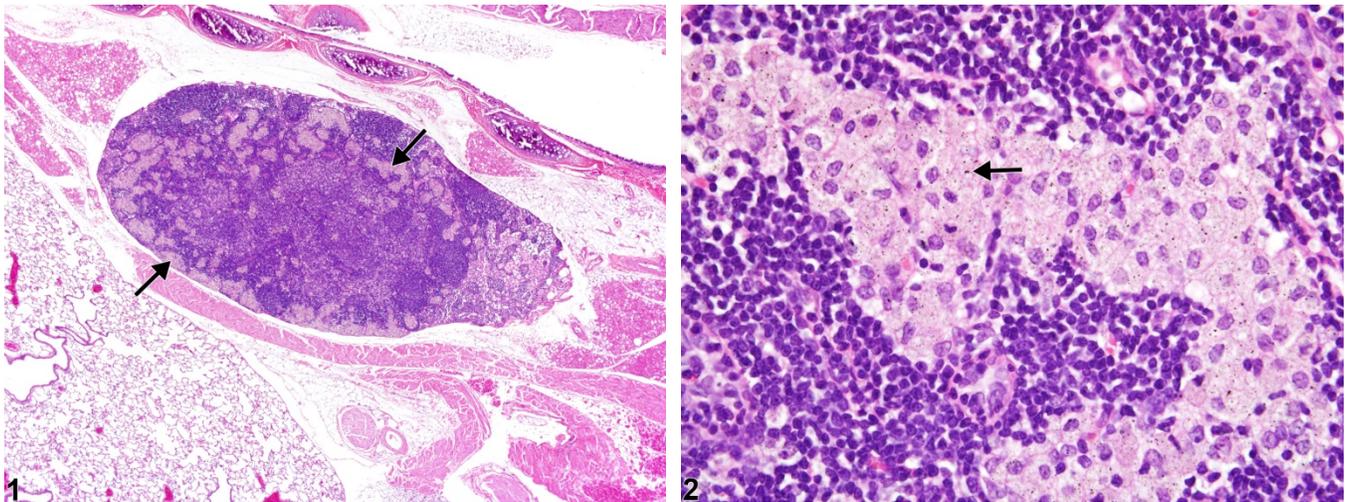


# NTP Nonneoplastic Lesion Atlas

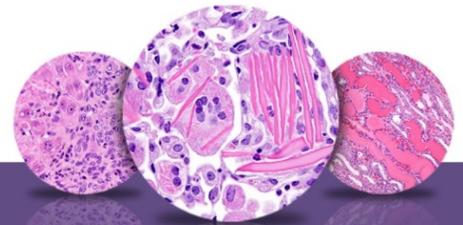
## *Lymph Node – Infiltrate, Cellular, Histiocyte*



**Figure Legend:** **Figure 1** Lymph node - Infiltrate, Cellular, Histiocyte in a male Harlan Sprague Dawley rat from a subchronic study. Increased numbers of histiocytes are present within the paracortical and subcapsular sinuses (arrows). **Figure 2** Lymph node - Infiltrate, Cellular, Histiocyte in a male Harlan Sprague Dawley rat from a subchronic study (higher magnification of Figure 1). Histiocytes contain intracytoplasmic insoluble particulate matter (arrow).

**Comment:** Histiocytes may be increased in the lymph nodes of rats and mice. This lesion can occur spontaneously (e.g., dietary antigenic stimulation of mesenteric lymph nodes) or secondary to treatment. Increases may reflect proliferation of resident sinusoidal histiocytes or an increased influx of histiocytes via the afferent lymphatics. This lesion may be within subcapsular, paracortical, or medullary sinuses (Figure 1, arrows). If this lesion occurs in the same lymph node for a particular dose group (e.g., bronchial lymph node in an inhalation study), it may suggest a treatment-related effect. Histiocytes in affected lymph nodes may contain intracytoplasmic insoluble particulate matter, such as phagocytized test article or vehicle material (Figure 2, arrow) or pigment (hemosiderin, etc.). Histiocyte increases in lymph nodes under constant spontaneous antigenic or foreign material stimulation (e.g., mesenteric lymph nodes) must be differentiated from increases due to treatment. Previous terms for histiocytes in lymph nodes are “histiocyte hyperplasia” and “histiocyte infiltrate.”

**Recommendation:** Whenever present, histiocyte increases in the lymph nodes of rats and mice should be diagnosed and given a severity grade. This lesion should always be diagnosed in the context



# NTP Nonneoplastic Lesion Atlas

## *Lymph Node – Infiltration, Cellular, Histiocyte*

of the test article, treatment group, route of administration, and lymph node involved (compare with concurrent controls).

### References:

Elmore SA. 2006. Enhanced histopathology of the lymph nodes. *Toxicol Pathol* 34:634-647.

Abstract: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1783683/>

Elmore SA. 2006. Histopathology of the lymph nodes. *Toxicol Pathol* 34:425-454.

Full Text: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1892634/>

Frith CH, Ward JM, Brown RH, Tyler RD, Chandra M, Stromberg PC. 1996. Proliferative lesions of the hematopoietic and lymphatic systems in rats. HL-1. In: *Guides for Toxicologic Pathology*. STP/ARP/AFIP, Washington, DC.

Frith CH, Ward JM, Chandra M, Losco PE. 2000. Non-proliferative lesions of the hematopoietic system in rats. In: *Guides for Toxicologic Pathology*. STP/ARP/AFIP, Washington, DC.

Full Text: <https://www.toxpath.org/ssdnc/HematopoieticNonprolifRat.pdf>

National Toxicology Program. 2010. 39-Week Study (No. C20213) of Abrasive Blasting Agents (CAS No. Blastingsand) in Harlan Sprague Dawley Rats (Inhalation Studies). NTP, Research Triangle Park, NC.

Ward JM, Mann PC, Morishima H, Frith CH. 1999. Thymus, spleen, and lymph nodes. In: *Pathology of the Mouse* (Maronpot RR, ed). Cache River Press, Vienna, IL, 333-360.

Ward JM, Rehg JE, Morse HC III. 2012. Differentiation of rodent immune and hematopoietic system reactive lesions from neoplasia. *Toxicol Pathol* 40:425-434.

Abstract: <http://www.ncbi.nlm.nih.gov/pubmed/22215512>

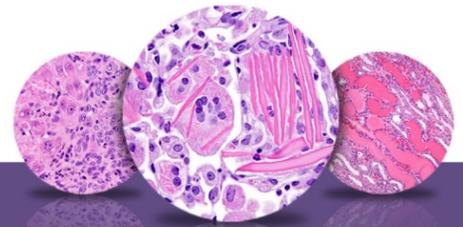
### Authors:

Kristen Hobbie, DVM, PhD  
Principal Pathologist  
Huntingdon Life Sciences  
Peterborough, UK

Susan A. Elmore, MS, DVM, DACVP, DABT, FIATP  
Staff Scientist, NTP Pathologist  
NTP Pathology Group  
National Toxicology Program  
National Institute of Environmental Health Sciences  
Research Triangle Park, NC



National Toxicology Program  
U.S. Department of Health and Human Services



# NTP Nonneoplastic Lesion Atlas

## *Lymph Node – Infiltration, Cellular, Histiocyte*

### **Authors:**

Holly M. Kolenda-Roberts, DVM, PhD, DACVP  
Veterinary Pathologist  
SNBL USA  
Everett, WA