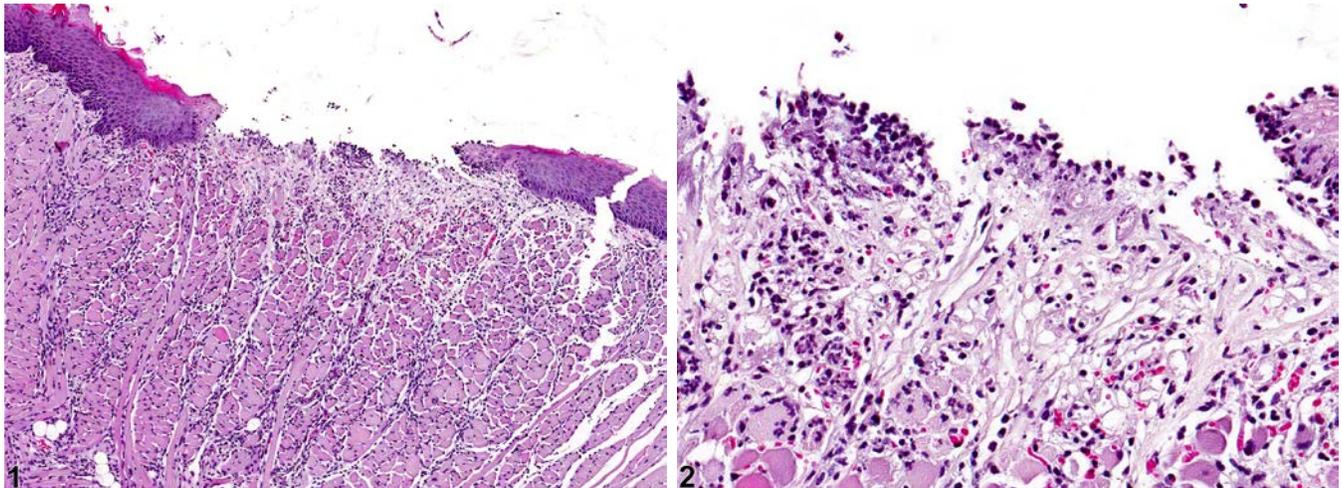




# NTP Nonneoplastic Lesion Atlas

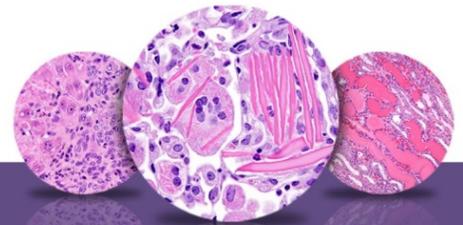
## Tongue – Ulcer



**Figure Legend:** **Figure 1** Tongue - Ulcer in a female F344/N rat from a chronic study. A portion of the keratinized squamous epithelium of the tongue has been lost, exposing the underlying lamina propria. **Figure 2** Tongue - Ulcer in a female F344/N rat from a chronic study (higher magnification of Figure 1). Inflammatory cells are present on the surface of the ulcer and within the underlying lamina propria.

**Comment:** Ulcers and erosions can occur anywhere in the gastrointestinal tract, including the tongue. An erosion involves the loss of superficial epithelium of the mucosa, whereas an ulcer (Figure 1, Figure 2) involves loss of the full thickness of epithelial cells and extends to the lamina propria. Ulceration and inflammation can be the result of spontaneous disease or local or systemic toxic injury. Ulcers on the tongue can be caused by malocclusion with incisor overgrowth or can be secondary to uremia. They are typically accompanied by inflammation and may also be accompanied by myocyte degeneration.

**Recommendation:** Ulceration and erosion of the tongue should be diagnosed and graded. Edema, inflammation, and hyperplasia of the adjacent epithelium should not generally be diagnosed separately unless they are prominent components of the lesion. Necrosis of the epithelium is diagnosed instead of erosion or ulceration if the necrotic epithelium is still present and attached to the underlying lamina propria.



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### References:

Bertram TA, Markovits JE, Juliana MM. 1996. Non-proliferative lesions of the alimentary canal in rats GI-1. In: Guides for Toxicologic Pathology. STP/ARP/AFIP, Washington, DC, 1-16.

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

Comereski CR, Peden WM, Davidson TJ, Warner GL, Hirth RS, Frantz JD. 1994. BR96-doxorubicin conjugate (BMS-182248) versus doxorubicin: A comparative toxicity assessment in rats. Toxicol Pathol 22:473-488.

Abstract: <http://www.ncbi.nlm.nih.gov/pubmed/7899776>

Leininger JR, Jokinen MP, Dangler CA, Whiteley LO. 1999. Oral cavity, esophagus, and stomach. In: Pathology of the Mouse (Maronpot RR, ed). Cache River Press, St Louis, MO, 29-48.

Abstract: <http://www.cacheriverpress.com/books/pathmouse.htm>

National Toxicology Program. 2008. NTP TR-546. Toxicology and Carcinogenesis Studies of Sodium Dichromate Dihydrate (CAS No. 7789-12-0) in F344 rats and B6C3F1 Mice (Drinking Water Studies). NTP, Research Triangle Park, NC.

Abstract: <http://ntp.niehs.nih.gov/go/29323>

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