



NTP Nonneoplastic Lesion Atlas

Lacrimal Gland – Karyomegaly

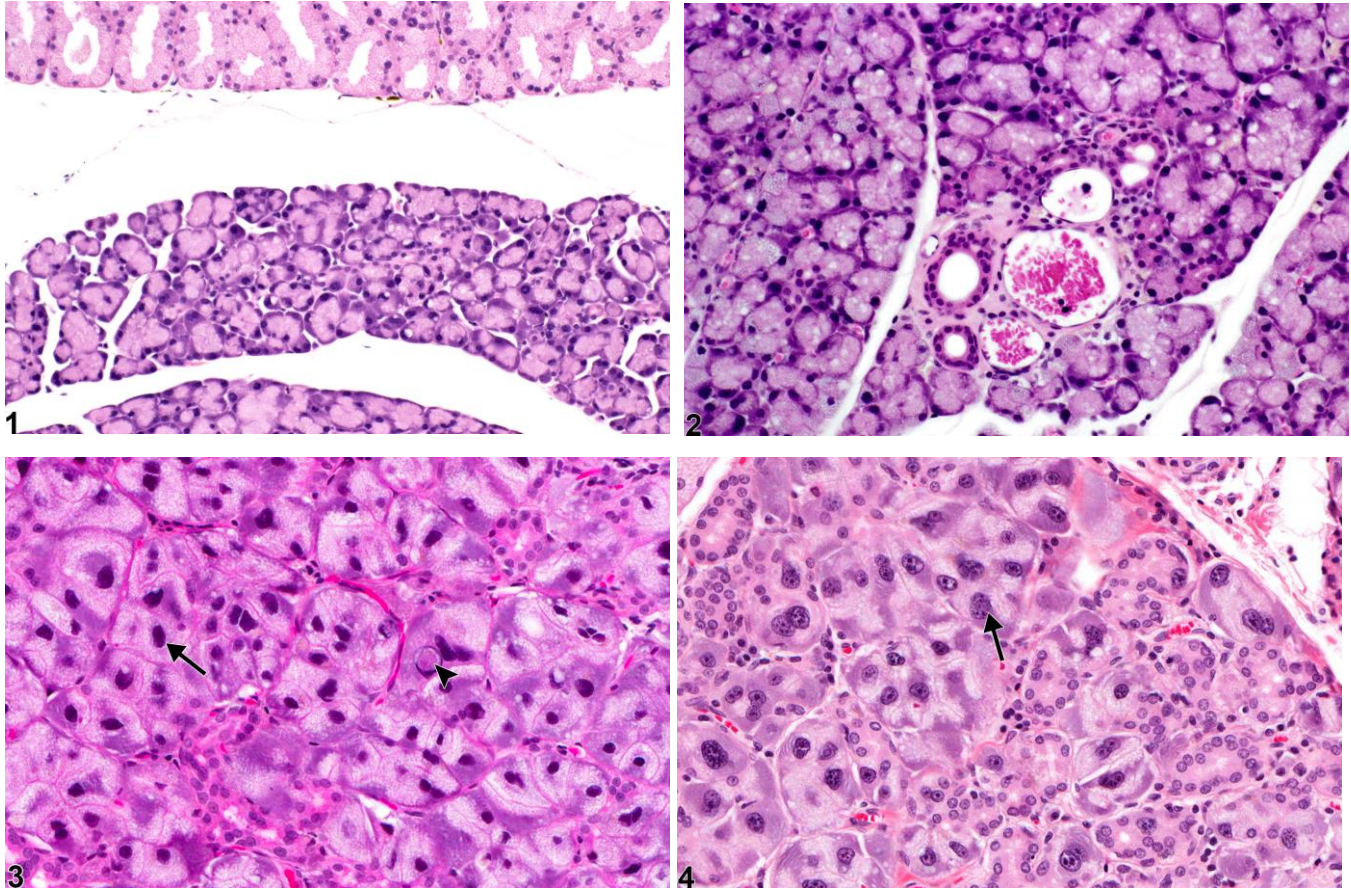
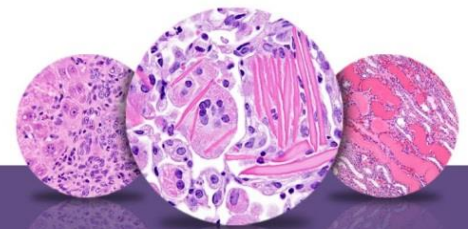


Figure Legend: **Figure 1** Lacrimal gland - Normal in a male B6C3F1 mouse from a chronic study. Normal lacrimal gland for comparison to Figure 3 and Figure 4. **Figure 2** Lacrimal gland - normal in a male B6C3F1 mouse from a chronic study. Normal lacrimal gland – compare to Figure 3 and Figure 4. **Figure 3** Lacrimal gland - Karyomegaly in a male Osborne-Mendel rat from a chronic study. Karyomegaly is characterized by acinar cells with enlarged, often pleomorphic nuclei (arrow) and frequent intranuclear pseudoinclusions (arrowhead). **Figure 4** Lacrimal gland - Karyomegaly in a male Osborne-Mendel rat from a chronic study. Karyomegaly is characterized by acinar cells with enlarged nuclei (arrow), which are often pleomorphic.

Comment: Lacrimal gland karyomegaly is characterized by lacrimal gland acinar cells with enlarged, often pleomorphic nuclei with prominent nucleoli and/or polyploidy (Figure 3 and Figure 4). Intranuclear pseudoinclusions are sometimes present (Figure 3) and are most likely cytoplasmic invaginations. Affected cells generally exhibit increased cytoplasmic volume (overall cytomegaly). This very common



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change occurs in rats and mice (with rats more frequently affected) and tends to increase in incidence and severity with age. Male rodents are more frequently and extensively affected than females, which contributes to the sexual dimorphism (overall relatively larger lacrimal glands) of this organ in mice and especially in rats.

Recommendation: Karyomegaly in the lacrimal gland should be diagnosed only if there are treatment-related differences in incidence and/or severity. When diagnosed, it should be graded.

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