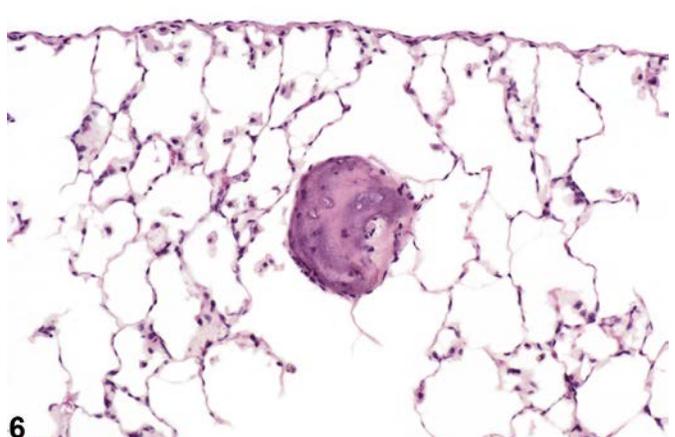
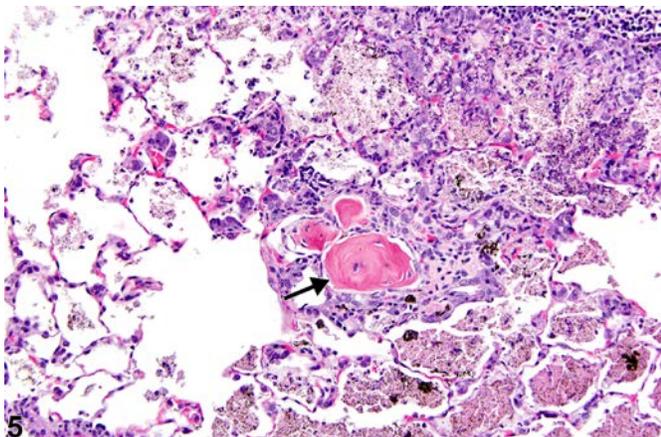
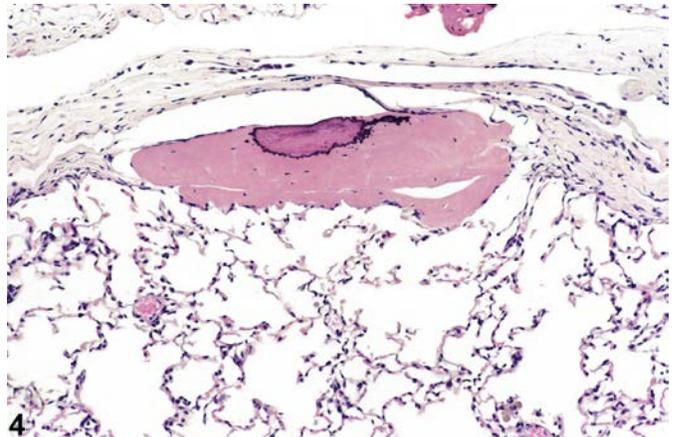
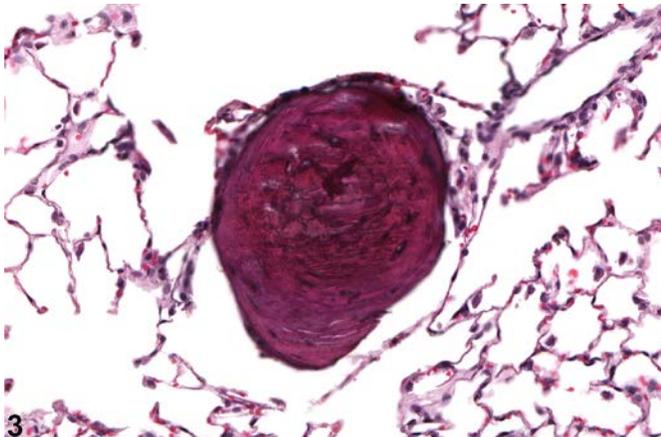
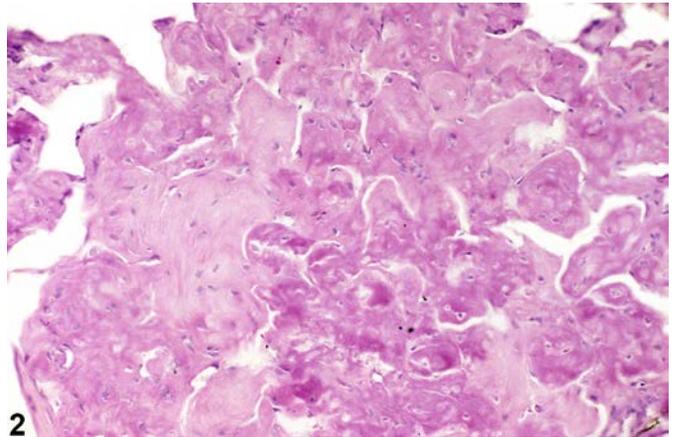
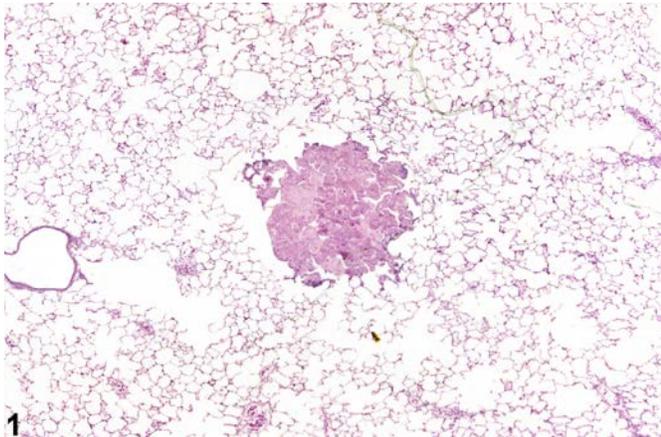
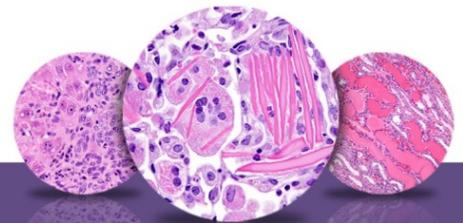


# NTP Nonneoplastic Lesion Atlas

## *Lung – Metaplasia, Osseous*





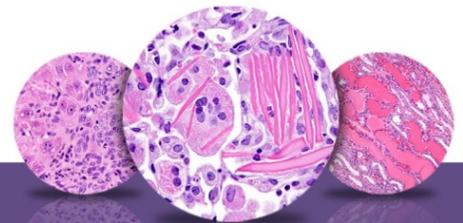
## NTP Nonneoplastic Lesion Atlas

### *Lung – Metaplasia, Osseous*

**Figure Legend:** **Figure 1** Lung - Metaplasia, Osseous in a F344/N rat from a chronic study. A focus of unmineralized bone is present in the lung parenchyma. **Figure 2** Lung - Metaplasia, Osseous in a F344/N rat from a chronic study (higher magnification of Figure 1). The eosinophilic material in the lung is unmineralized bone. **Figure 3** Lung - Metaplasia, Osseous in a male F344/N rat from a subchronic study. A focus of mineralized bone is present in the lung parenchyma. **Figure 4** Lung - Metaplasia, Osseous in a female B6C3F1/N mouse from a chronic study. There is a subpleural focus of mineralized bone within a focus of unmineralized bone. **Figure 5** Lung - Metaplasia, Osseous from a male Wistar Han rat in a chronic study. Though this focus of osseous metaplasia (arrow) is within an area of inflammation, it is likely not treatment related. **Figure 6** Lung - Metaplasia, Osseous in a female F344/N rat from a chronic study. A focus of mineralized bone is present in the peripheral lung.

**Comment:** Osseous metaplasia (Figure 1, Figure 2, Figure 3, Figure 4, Figure 5, and Figure 6) is frequently seen as a background lung lesion in NTP studies. No association with test article administration has been shown. It may occur anywhere in the lung, including the pleura (Figure 4). Osseous metaplasia is seen as foci of eosinophilic osteoid or woven bone or basophilic mineralized bone that contain interspersed lacunae. Rarely, bone is formed that contains hematopoietic elements (bone marrow). Cartilaginous metaplasia is also seen in the lung, comprising amphophilic to basophilic foci of chondroid matrix that contain interspersed lacunae. In laboratory rodents, osseous metaplasia is most common in the lungs of B6C3F1 mice. Cartilaginous and osseous metaplasia may occur as a response to injury or inflammation. These lesions occur when fibroblastic tissue is stimulated or induced to form nonneoplastic bone and/or cartilage. New bone forms with or without a cartilage template and can be bordered by fibroblastic tissue. Foci of osseous or cartilaginous metaplasia must be distinguished from metastatic osteosarcoma or chondrosarcoma, respectively.

**Recommendation:** Lung - Metaplasia, Osseous is generally considered a background lesion but should be diagnosed for completeness. Similarly, cartilaginous metaplasia should also be diagnosed when present. These lesions need not be graded.



# NTP Nonneoplastic Lesion Atlas

## *Lung – Metaplasia, Osseous*

### **References:**

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