

NTP Nonneoplastic Lesion Atlas

Liver, Stellate cell – Hyperplasia

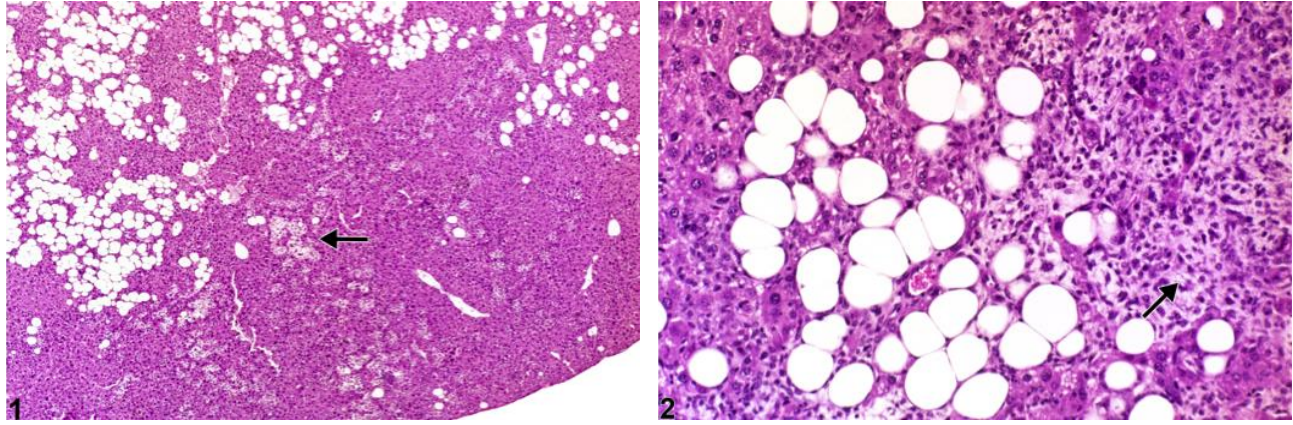
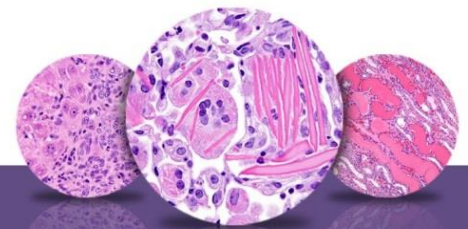


Figure Legend: **Figure 1** Stellate cell hyperplasia—arrow indicates spindloid morphology in a female B6C3F1 mouse from a chronic study. **Figure 2** Stellate cell hyperplasia—arrow indicates stellate cells with a spindloid morphology in a female B6C3F1 mouse from a chronic study.

Comment: Hepatic stellate cell (Ito cell or perisinusoidal cell) hyperplasia is rare in mice and has not been documented in NTP rat studies. It consists of a diffuse or multifocal proliferation of stellate cells (fat-storing cells, as opposed to macrovesicular fat within hepatocytes) without prominent compression of surrounding parenchyma. Stellate cells store retinoid compounds and when activated may convert to a spindloid morphology (Figure 1 and Figure 2, arrow) and produce extracellular matrix proteins and collagen (scar tissue) in response to hepatic injury. Distinction from stellate cell tumors is based on the latter being more discrete and causing compression of surrounding hepatic parenchyma.

Recommendation: Proliferations of stellate cells should be documented and given a severity grade. If stellate cell tumors are present in the same study, it should be mentioned in the pathology narrative.



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References:

Dixon D, Yoshitomi K, Boorman GA, Maronpot RR. 1994. “Lipomatous” lesions of unknown cellular origin in the liver of B6C3F1 mice. *Vet Pathol* 31:173–182.

Abstract: <http://www.ncbi.nlm.nih.gov/pubmed/8203079>

Harada T, Enomoto A, Boorman GA, Maronpot RR. 1999. Liver and gallbladder. In: *Pathology of the Mouse: Reference and Atlas* (Maronpot RR, Boorman GA, Gaul BW, eds). Cache River Press, Vienna, IL, 119–183.

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

National Toxicology Program. 1987. NTP TR-324. Toxicology and Carcinogenesis Studies of Boric Acid (CAS No. 10043-35-3) in B6C3F₁ Mice (Feed Studies). NTP, Research Triangle Park, NC.

Full-Text: http://ntp.niehs.nih.gov/ntp/htdocs/lt_rpts/tr324.pdf

Thoolen B, Maronpot RR, Harada T, Nyska A, Rousseaux C, Nolte T, Malarkey D, Kaufmann W, Kutter K, Deschl U, Nakae D, Gregson R, Winlove M, Brix A, Singl B, Belpoggi F, Ward JM. 2010. Hepatobiliary lesion nomenclature and diagnostic criteria for lesions in rats and mice (INHAND). *Toxicol Pathol* 38:5S–81S.

Full-Text: http://tpx.sagepub.com/content/38/7_suppl/5S.full

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