

SNOT & Dextran/SNOT Exposed Mice for Safety and Efficacy Experiments  
Histopathology  
E610 & E636

**E610 Safety and Efficacy Experiments: Can SNOT enter the brain and does it damage brain tissue**

*Initial Experiment on Transport of SNOT Using Rhodamine Dextran*

**Pathologist's Summary:** Decalcified nose sections (sequentially identified from front to back as T1, T2, T3 and T4) were examined from twenty-one mice exposed to a solution for nasal and olfactory transport (SNOT) or dextran dyes in SNOT. Not all nose sections were available from all animals. Olfactory bulb was evaluated in five mice. No exposure-related morphologic alterations were present in the tissue sections.

**E610 0.5% Rhodamine dextran in SNOT – 1 hr post-exposure**

P17-1908, T1: Not interpretable

Comment: Section is not interpretable due to fragmentation from the necropsy procedure

P17-1908, T2: NSL (no significant lesions)

Comment: Fragmentation is present but contains both respiratory epithelium and olfactory neuroepithelium with normal morphology

P17-1908, T3: NSL

Comment: Some blood, cellular debris and tissue fragmentation are consistent with the necropsy procedure but intact tissue is within normal histologic limits

P17-1908, T4: NSL

Comment: Nasopharyngeal duct only

P17-2160, olfactory bulb 1: NSL

Comment: Beautiful section

P17-2160, T1: NSL

P17-2160, T2: NSL

Comment: Small amounts of blood and tissue floaters are interpreted as an artifact of the necropsy procedure.

P17-2160, T3: NSL

Comment: Extensive tissue shattering association with the necropsy procedure interfere slightly with the histopathology assessment

P17-2160, T4 (nasopharyngeal duct only): NSL

P17-2226, Olf 1: NSL

P17-2226, T1: Not interpretable

Comment: Sample is too proximal for interpretation

P17-2226, T2: Uninterpretable

Comment: Rotated section

P17-2226, T3: NSL

Comment: Small amounts of blood and cellular debris in the lumen are interpreted as necropsy artifacts.

P17-2226, T4 (nasopharyngeal duct only): NSL

**E610 SNOT control for the 1 hr post-exposure control for the initial transport study**

P17-1907, T1 – NSL

Comment: A small amount of tissue and blood within the lumen is interpreted as an artifact of the necropsy procedure. The section is closer to level T2 than level T1

P17-1907, T2 – NSL

Comment: This is a partial section that is rotated and contains floaters from the necropsy procedure that moderately interfere with tissue interpretation

P17-1907, T3 – Tissue inadequate for interpretation

Comment: The section is rotated and mostly consists of a tooth with surrounding tissue

P17-1907, T4 – Tissue inadequate for interpretation

Comment: Tissue is rotated and uninterpretable

P17-2124, T1:

1. Multifocal, mild erosions (see comment)

Comment: The erosions are considered an artifact due to immediate post-mortem stabilization and compression of the nose to remove dorsal boney cranium as part of the necropsy procedure

P17-2124, T2: NSL

Comment: Tissue fragmentation and cellular debris are present and are an expected consequence of the removal of the dorsal neurocranium

P17-2124, T3: NSL

Comment: Some tissue fragmentation is present and attributed to the necropsy procedure

P17-2125, T1: NSL

Comment: Some red cells and cellular debris are present and consistent with removal of the dorsal neurocranium immediately postmortem

P17-2125, T2: NSL

Comment: Some tissue fragmentation and crush artifact is present and consistent with removal of the dorsal neurocranium at necropsy

P17-2125, T3: NSL

Comment: Some tissue fragmentation and crush artifact is present and consistent with removal of the dorsal neurocranium at necropsy

P17-2125, T4: NSL

Comment: Some tissue fragmentation and crush artifact is present and consistent with removal of the dorsal neurocranium at necropsy

***E610 Rhodamine Dextran Time-course Experiment with SNOT Controls***

**0.5% Rhodamine dextran in SNOT – 3 hr post-exposure**

P17-2228, olfactory bulb 1: NSL

P17-2228, T1: NSL

P17-2228, T2: NSL

Comment: A floater of faintly basophilic material containing some cellular debris is in the lumen

P17-2228, T3: NSL

Comment: Some artifactual tearing of the tissue is present and attributed to the necropsy procedure. However, this artifact does not interfere with tissue interpretation

P17-2228, T4: NSL

Comment: Rare inflammatory cells and scant quantities of basophilic material are above the cilia of the nasopharyngeal duct.

**0.5% Rhodamine dextran in SNOT – 6 hr post-exposure**

P17-2229, olfactory bulb 1: NSL

P17-2229, T1: NSL

P17-2229, T2: NSL

P17-2229, T3: NSL

Comment: Small amounts of eosinophilic proteinaceous material admixed with small amounts of cellular debris is in the lumen and suggests slightly suboptimal fixation

P17-2229, T4: NSL

**SNOT – 3 hr post-exposure**

P17-2230, olfactory bulb 1: NSL

P17-2230, T1: NSL

Comment: A small amount of basophilic material admixed with some red cells is in the lumen and interpreted as a necropsy artifact

P17-2230, T2: NSL

Comment: A small amount of blood is in the lumen and interpreted as a necropsy artifact

P17-2230, T3: NSL

Comment: A small amount of debris is in the lumen and interpreted as a necropsy artifact

P17-2230, T4: NSL

***NIR Dextran Time-course (labelled E636)***

**0.5% NIR dextran in SNOT – 6 hr post-exposure**

P19-0270, T1: NSL

Comment: This section is rotated so that only partial assessment is possible

P19-0270, T3: NSL

P19-0270, T4: NSL

P19-0271, T1: Not interpretable

Comment: Wrong side of the block – not the area of interest

P19-0271, T3: NSL

P19-0271, T4: NSL

Comment: Partial section due to removal of brain

P19-0272, T1: NSL

Comment: This section is rotated so that only partial assessment is possible

P19-0272, T3: NSL

Comment: Excellent section, appears to be level T2

P19-0272, T4: NSL

Comment: Section appears to be level T3. Some artifactual tissue tearing is present and likely associated with opening the nasal cavity for stereomicroscopy

**0.5% NIR dextran in SNOT – 1-day post-exposure**

P19-0264, T1: NSL

Comment: Section not optimally oriented

P19-0264, T3: NSL

Comment: Section not optimally oriented

P19-0264, T4: NSL

Comment: Section not optimally oriented

P19-0265, T1: NSL

Comment: Outstanding section for photomicroscopy

P19-0265, T3: NSL

Comment: Some amphophilic material lining nasal passage may be normal secretions or SNOT. Some blood is present in the lumen and is interpreted as a necropsy artifact

P19-0265, T4: NSL

P19-0266, T1: NSL

Comment: Outstanding section for photomicroscopy

P19-0266, T3: NSL

Comment: Some amphophilic material lining nasal passage may be normal secretions or SNOT. Some blood is present in the lumen and is interpreted as a necropsy artifact

P19-0266, T4, nasopharyngeal duct - NSL

**E636 SNOT Controls – 1 day post-exposure**

P19-0267, T1: NSL

P19-0267, T3: NSL

Comment: Some blood is present in the lumen and is interpreted as a necropsy artifact

P19-0267, T4: NSL

P19-0268, T1: NSL

Comment: Some amphophilic material lining nasal passage may be normal secretions or SNOT

P19-0268, T3: NSL

P19-0268, T4: NSL

Comment: Some blood is present in the lumen and is interpreted as a necropsy artifact

P19-0269, T1: NSL

P19-0269, T3: NSL

P19-0269, T4: NSL

Comment: Some blood is present in the lumen and is interpreted as a necropsy artifact

**E636 SNOT Controls – 6 hr post-exposure**

P19-0273, T1: NSL

Comment: Excellent section

P19-0273, T3: NSL

Comment: Looks like level T2

P19-0273, T4: NSL

Comment: Looks like level T3

P19-0274, T1: NSL

P19-0274, T3: NSL

P19-0274: T4 NSL

Comment: This is further back at level T3. Some artifactual shattering of tissue is present and is attributed to the necropsy procedure involving opening of the nasal cavity for stereomicroscopy

P19-0275, T1: NSL

P19-0275, T3: NSL

Comment: Some artifactual shattering of tissue is present

P19-0275: T4 NSL

Comment: Some tissue shattering, red cells, and cellular debris are interpreted as artifacts of the necropsy procedure (opening the nasal cavity for stereomicroscopy)