

**NEUROPEPTIDE Y DOES NOT ALTER LIGHT-INDUCED FOS IN THE HAMSTER SCN.** [P.C.Molyneux\\*](#); [P.C.Yannielli](#); [M.E.Harrington](#)

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The suprachiasmatic nuclei (SCN) are key regulators of circadian rhythms in mammals. Neuropeptide Y (NPY) released from the intergeniculate leaflet inhibits light-induced phase shifts by action on the SCN. This study tests the effect of NPY on the induction of cFos, an early gene product induced at times when light will phase shift rhythms. Syrian hamsters were implanted with cannulae directed to the SCN. In preliminary experiments, brief exposure to isoflurane had no effect on phase shifts to light at CT19 and alone had no effect on phase at either CT6 or CT19, supporting its use as an anesthetic for restraint stress. Cannula placement was tested by administration of NPY (234 uM, 0.2ul) at CT6 which induces a phase advance when the cannula is located near the SCN. Animals with an advance of less than 30 min. were discarded from further cannula treatments. Animals were housed for 10 days under LD and then under dim red light (DRL). Experimental animals were anesthetized with isoflurane and injected with NPY under DRL at CT19 and then exposed to light or left under DRL, for 1 hr. Control animals were anesthetized and upon recovery exposed to light or left in DRL, for 1 hr. Animals were overdosed with pentobarbital and perfused with saline and paraformaldehyde. Brains were post-fixed, cryoprotected, cut and processed for immunocytochemistry using anti-cFos antibody (Santa Cruz; 1:10,000). There was no significant difference in the appearance of cFos-ir in the SCN after NPY treatment. Control and experimental animals exposed to light displayed a similar level of cFos-ir while animals who received no light treatment had little or no cFos-ir present, as quantified using NIH Image software. This indicates that the ability of NPY to modulate photic phase shift responses does not apparently act via modulation of cFos expression in the hamster SCN.

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