

# MAPPING THE MIDSAGITTAL CORPUS CALLOSUM IN THE RAT: TOPOGRAPHICAL CORRESPONDENCE OF CALLOSAL REGIONS WITH CORTICAL SUBDIVISIONS.

**M. Noonan, M.A. Sanfilippo, D.J. Chmiel, Jr., M.A. Smith.**

Canisius College

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## ABSTRACT

The location in the midsagittal plane of fibers within the corpus callosum of the rat were mapped in correspondence with cortical region. Results are reported from both HRP and silver-staining following localized cortical treatments.

A detailed map is presented delineating the callosal regions corresponding to each Zilles subdivision. Fibers corresponding to most cortical areas are segregated and distinctly bundled in their passage through the callosum at the midline. However, the fibers of some subdivisions overlap and intermingle extensively. In general, there is an anterior-posterior correspondence relating cortical area and callosal locale. Additionally, there is a tendency for fibers associated with medially-located cortical regions to cross in dorsal layers of the callosum and more laterally-located regions to cross in ventral layers. The genu of the callosum consists of fibers corresponding to medial prefrontal cortex (e.g., DPC, IL, MO, VO, Cg3), the trunk includes fibers corresponding to frontal and parietal cortex (e.g., FR1&2 and PAR1&2), and the splenium consists largely of occipital and retrosplenial fibers (e.g., OC2L, RSA, RSG).

The results are expected to guide future callosotomy studies in which only selected regions of the cortex are disconnected.

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