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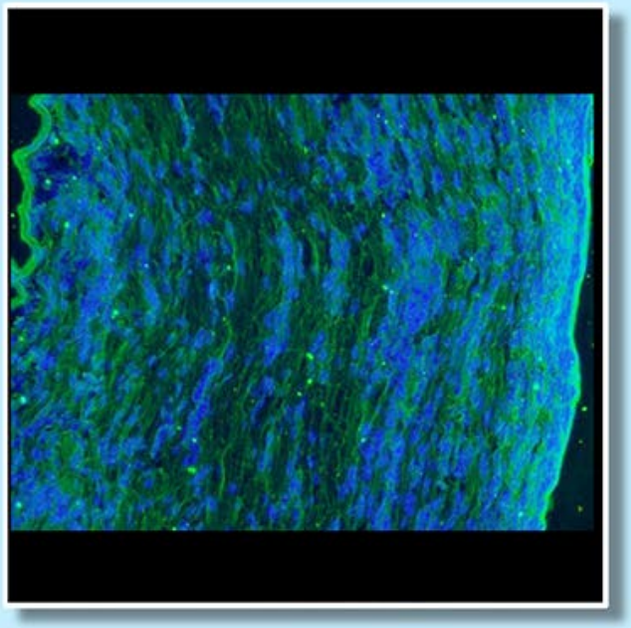

Periostin (green) in a CIDP Mouse
Sciatic Nerve (blue: nuclei)

DX5+ Endoneurial Cells And Extracellular Periostin are Upregulated in Chronic Inflammatory Demyelinating Polyneuropathy

Chronic Inflammatory Demyelinating Polyneuropathy (CIDP) is an autoimmune disorder characterized by weakness, imbalance, sensory loss and pain throughout the body. Previously, our lab showed that a strain of NOD mice with a dominant G228W mutation (NOD.*Aire*$^{GW/+}$ mice) develops spontaneous autoimmune peripheral neuropathy is a model for CIDP. Additionally, in the nerves of neuropathic mice, our lab observed an increase in a population of cells that expressed DX5 (a classical marker for NK T cells) and expressed 60-fold higher RNA transcripts of extracellular periostin compared to dendritic cells and T cells. In this study, we aimed to confirm this increase in DX5+ cells and to determine whether periostin expression is upregulated in the sciatic nerves of neuropathic mice. Additionally, we aimed to determine what types of cells are expressing DX5. Using immunofluorescence staining of DX5 and CD3 (a classical marker for T cells) in sciatic nerve sections from neuropathic mice, we found that the CD3+ cells did not co-localize with DX5 staining suggesting that the DX5+ cells are not infiltrating NK T cells. Additionally, we found that the DX5+ cells were enriched in the neuropathic mice compared to wild type mice. Using qRT-PCR, western blot, and immunofluorescence for periostin, we found that periostin was enriched at the mRNA and protein level in neuropathic mice as compared to the wild-type mice. These findings suggest a possible pathogenic or maintenance role of DX5+ cells and periostin in CIDP. Consequently, these findings may have important implications in the further study of the pathogenesis of CIDP and help guide more targeted therapeutics for CIDP in the future.