

E0039

The Structure and Function of Myelin Oligodendrocyte Glycoprotein-MOG. Katy Keefe, Cristina O'Brian, Hannah Gottinger, Alyssa Latin-Kasper, Megan McChain , Jeff Anderson. Riverside Univ. High School SMART Team, Milwaukee, WI 53211-3298, Mentor: Dr. Bonnie Dittel, Blood Research Inst., Milwaukee, WI 53226-0509.

The MOG protein is associated with the exterior of neural oligodendrocytes. MOG is an auto-antigen protein that when destroyed can result in a disease characterized by the demyelination of neurons. The exact mechanism for this mistaken self - nonself recognition sequence within the body is unknown. The location of MOG within the myelin sheath of attacked cells makes MOG a potential key protein that may initiate the self-destruction of the myelin sheath which results in irregular transmission patterns along affected dendrites. The MOG protein is currently being investigated for its effect on Multiple Sclerosis and related illnesses.

Dr. Bonnie Dittel of the Blood Research Institute of Southeastern Wisconsin is investigating the cellular and molecular interactions involved in the regulation of the immune response. Dr. Dittel's research with mice and myelin sheaths along with the student's interest in nervous system functioning resulted in the collaboration presented as – the Structure and Function of Myelin Oligodendrocyte Glycoprotein – MOG. Our model is based on the 1PY9 pdb file.