

Publication**Age-dependent B cell autoimmunity to a myelin surface antigen in pediatric multiple sclerosis****JournalArticle (Originalarbeit in einer wissenschaftlichen Zeitschrift)****ID** 1196541**Author(s)** McLaughlin, Katherine A; Chitnis, Tanuja; Newcombe, Jia; Franz, Bettina; Kennedy, Julia; McArdel, Shannon; Kuhle, Jens; Kappos, Ludwig; Rostasy, Kevin; Pohl, Daniela; Gagne, Donald; Ness, Jayne M; Tenembaum, Silvia; O'Connor, Kevin C; Viglietta, Vissia; Wong, Susan J; Tavakoli, Norma P; de Seze, Jerome; Idrissova, Zhannat; Khoury, Samia J; Bar-Or, Amit; Hafler, David A; Banwell, Brenda; Wucherpfennig, Kai W**Author(s) at UniBasel** [Kappos, Ludwig](#) ;**Year** 2009**Title** Age-dependent B cell autoimmunity to a myelin surface antigen in pediatric multiple sclerosis**Journal** Journal of immunology : official journal of the American Association of Immunologists**Volume** 183**Number** 6**Pages / Article-Number** 4067-76

Multiple sclerosis (MS) typically manifests in early to mid adulthood, but there is increasing recognition of pediatric-onset MS, aided by improvements in imaging techniques. The immunological mechanisms of disease are largely unexplored in pediatric-onset MS, in part because studies have historically focused on adult-onset disease. We investigated autoantibodies to myelin surface Ags in a large cohort of pediatric MS cases by flow cytometric labeling of transfectants that expressed different myelin proteins. Although Abs to native myelin oligodendrocyte glycoprotein (MOG) were uncommon among adult-onset patients, a subset of pediatric patients had serum Abs that brightly labeled the MOG transfectant. Abs to two other myelin surface Ags were largely absent. Affinity purification of MOG Abs as well as competition of binding with soluble MOG documented their binding specificity. Such affinity purified Abs labeled myelin and glial cells in human CNS white matter as well as myelinated axons in gray matter. The prevalence of such autoantibodies was highest among patients with a very early onset of MS: 38.7% of patients less than 10 years of age at disease onset had MOG Abs, compared with 14.7% of patients in the 10- to 18-year age group. B cell autoimmunity to this myelin surface Ag is therefore most common in patients with a very early onset of MS.

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