# AUTOIMMUNE AUTISM

## Envronmental Triggers in Autism

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A combination of genetic and environmental factors contribute to the development of autism. Some of the suspected triggers in autism include vaccines and heavy metals.

## Autism and Its Causes

Autism is a complex disorder affecting neurological development that emerges in early childhood. Variable in its clinical presentation, the spectrum of autism ranges from mild cognitive changes and behaviors to severe emotional withdrawal. Although a specific cause of autism has not been determined, most experts feel that genetic and environmental factors influence the development of abnormal cortical circuitry underlying autistic cognitive behaviors and processes.

Numerous studies show an autoimmune process caused by genetic and environmental factors contributes to autism. This is evidenced by the prevalence of several different autoantibodies in children with autism.

## Vaccines in Autism

Autoimmunity to myelin basic protein, the protein targeted in multiple sclerosis, is suspected of playing a causal role in autism. An unusual variant of measles-mumps-rubella antibodies are also seen in 60 percent of children with autism. More than 90 percent of autistic children with this variant had antibodies to myelin basic protein, suggesting a strong link between the measles-mumps-rubella vaccine and autism. A strong autoimmune reaction, particularly to the measles component of the vaccine, might be related to the pathogenesis of autism.

The measles autoantibody seen in children with autism is directed against a 74 kd protein. This autoantibody is seen in 83 percent of children with autism, and suggests a hyperimmune response to measles virus, which, in the absence of a wild-type measles infection, might be a sign of an abnormal immune reaction to the vaccine strain or of virus reactivation triggered by the vaccine.

Besides antibodies to myelin-basic-protein, antibodies to neuron-axon filament protein (anti-NAFP) are also seen in autism. Children with antibodies to measles-mumps-rubella as well as myelin basic protein and NAFP were also more likely to have antibodies to brain tissue. This supports the hypothesis that a virus-induced autoimmune response, which can be triggered by the MMR vaccine, may play a causal role in autism.

## Heavy Metals in Autism

Allergic autoimmune reactions occurring after exposure to heavy metals such as mercury derived from thimerosal additives in vaccines, may also contribute to autism. The body's primary metal detoxifying protein is metallothionein. Antibodies to metallothionein as well as antinuclear antibodies and antibodies directed against laminin protein are observed in children with autism. Studies to date have been conflicting although there is significant evidence to implicate thimerosal as a contributing factor in autism.

**Resources:**

Pardo CA, Vargas DKL, Zimmerman AW, Immunity, neuroglia and neuroinflammation in autism, Int Rev Psychiatry, 2005 Dec; 17(6): 485-495.

Singv VK, Lin SX, Abnormal measles-mumps-rubella antibodies and CNS autoimmunity in children with autism, J Biomed Sci, 2002 July-August; 9(4): 359-364.

Singer HS, Morris CM Antibrain antibodies in children with autism and their unaffected siblings.

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