

# Autism Research Review

I N T E R N A T I O N A L

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Reviewing biomedical and educational research in the field of autism and related disorders

Autism Research Institute  
4182 Adams Avenue  
San Diego, CA 92116

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## More clues point to immune disorder

New research adds weight to the theory that some cases of autism are caused by an autoimmune disorder—that is, by the body mistaking its own cells for “enemy” cells and attacking them.

Audrius Plioplys and colleagues recently reported a significantly increased incidence of abnormal immune reaction to cerebellar tissue in autistic subjects compared to non-disabled controls. No abnormal reaction to frontal cortex tissue occurred.

The researchers say that “the cerebellar specificity of our findings is particularly intriguing” in light of research by Eric Courchesne et al. (see cover story) implicating cerebellar abnormalities in autism.

In separate research involving the same autistic subjects, Plioplys found abnormal increases in DR+ but not IL-2 receptor+ lymphocytes, a finding which they say “suggest[s] ‘incomplete’ activation, a finding which is seen in autoimmune diseases.” Similar patterns, they note, are seen in juvenile arthritis, rheumatoid arthritis, and multiple sclerosis, all immune system disorders.

“The percentage of DR+ T lymphocytes decreased with increasing age” in autistic subjects, Plioplys et al. note, saying that “this result suggests the possibility of a much more active immune system process early in life, in a subset of autistics, which with aging progressively becomes more quiescent.”

(*Editor’s note: see editorial, page 3.*)  
Both of the studies also tested subjects with Rett syndrome (a progressive disorder which often resembles autism in its early stages). No immune system abnormalities were seen in these subjects.

“Immunoglobulin reactivity in autism and Rett’s syndrome,” Audrius V. Plioplys, Adonna Greaves, Kamyar Kazemi, and Earl Silverman; *Developmental Brain Dysfunction*, 7, 1994, pp. 12-16; and “Lymphocyte function in autism and Rett syndrome,” same authors, *Neuropsychobiology*, 29, 1994, pp. 12-16. Address for both: Audrius V. Plioplys, Division of Neurology, Mercy Hospital and Medical Ctr., Stevenson Expressway at King Drive, Chicago, IL 60616.

## Treatment update: epilepsy drugs

### *Seizure drugs: not just for seizures?*

Anti-convulsant drugs may be a highly effective treatment for some autistic children with no overt signs of a seizure disorder, according to a new report by Audrius Plioplys.

The physician cites case histories of three autistic patients, ranging in age from three to five, with no clinical suggestion of seizures. EEG tests on all three showed abnormalities, and the children were started on the anti-convulsant drug valproic acid. All three showed dramatic improvement in language skills, imaginative play, and social interaction.

Before treatment, Plioplys says, all three children were diagnosed as autistic according to the criteria specified in the Diagnostic and Statistical Manual III-R (DSM-III-R), which sets U.S. standards for diagnosing psychiatric disorders. Following treatment, he notes, “although their autistic symptoms had not fully resolved, each one technically no longer qualified for the diagnosis of autism.”

His results strongly suggest, Plioplys says, that researchers should study the effects of anti-convulsants on autistic children who do not have overt seizures, but who have epileptiform abnormalities on EEGs. He adds that testing should include both waking and sleeping EEGs.

“Autism: electroencephalogram abnormalities and clinical improvement with valproic acid,” Audrius V. Plioplys; *Archives of Pediatrics and Adolescent Medicine*, Vol. 148, February 1994, pp. 220-222. Address: Audrius Plioplys, Division of Neurology, Mercy Hospital and Medical Center, Stevenson Expressway at King Drive, Chicago, IL 60616.