



Aluminium and Alzheimer's Disease

The Science that Describes the Link

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Chapter 12 - Aluminum and the Blood-Brain Barrier

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Summary

Aluminum may contribute to Alzheimer's disease by increasing brain aluminum, however elevated brain aluminum has not been consistently found in Alzheimer's disease. Brain aluminum entry from the nasal cavity is probably not significant. Most brain aluminum entry is probably through the **Blood-Brain barrier** by **transferrin-receptor** mediated **endocytosis** and transporter-mediated processes. There appears to be transporter-mediated brain aluminum **efflux**. Some aluminum persists in the brain for a very long time, suggesting elevated brain aluminum might result in later life from dietary aluminum. Blood-Brain barrier permeability does not appear to be compromised in Alzheimer's disease or produced by aluminum under conditions relevant to the human. Studies assessing the ability of aluminum to alter Blood-Brain barrier function do not convincingly relate to the human.

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