N-Methyl-D-Aspartate (NMDA) Receptor Blockers for the Prevention of Atherosclerosis

**Technology Fields:** Therapeutics  
**Technology ID:** 69  
**Patent Status:** Issued [6,025,369]

**Summary**
Atherosclerosis is a complex disease affecting arterial blood vessels, that is characterized by chronic inflammatory response in the walls of arteries, that triggers deposition of lipoproteins and ultimately formation of the multiple plaques within the arteries. Currently, the treatment of atherosclerosis relies heavily on the reduction of risk factors in combination with lifestyle change, nutrition, exercise and stress management. One key risk factor for atherosclerosis is homocysteine, a sulfur-containing amino acid. Elevated plasma levels of homocysteine, that result from an inherited disorder of methionine metabolism, have been shown to be directly linked to an increased risk of atherosclerosis. Researchers at the University of Nebraska Medical Center have discovered a novel homocysteine receptor that has anatomic and physiological properties that may account for a major atherosclerosis effect of homocysteine. Further, researchers have discovered that antagonists of the NMDA receptor family can effectively block this receptor and have subsequently developed highly selective NMDA modulators. This invention comprises a new and highly effective class of drugs for the treatment and prevention of atherosclerosis, that inhibits the biochemical and physiological actions of homocysteine-activated homocysteine receptor.

**Market Value**
This technology will allow for the generation of an entire novel class of drugs for treatment and prevention of atherosclerosis, the disease that differentiates into heart attack, stroke and peripheral artery diseases. The competitive advantage of this novel class of anti-atherosclerosis drugs is the current absence of competition, uniqueness, specificity and reduced toxicity.

**Features and Benefits**
- Novel class of drugs for treatment and prevention of atherosclerosis
- No competitive drugs of similar action
- Action similar to anti-atherogenic effect of ethanol without side

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effects of ethanol ingestion

Publications