been significantly increased in immunosuppressed mice given oat beta-glucan intragastrically or parenterally.

CONTRAINDICATIONS, PRECAUTIONS, ADVERSE REACTIONS

CONTRAINDICATIONS
Known hypersensitivity to an oat beta-D-glucan-containing product.

PRECAUTIONS
None known.

ADVERSE REACTIONS
Oat beta-glucans are generally well tolerated. Occasional flatulence is reported.

OVERDOSAGE
There are no reports of overdosage.

DOSEAGE AND ADMINISTRATION
Dosage of oat beta-glucan required for a possible hypocholesterolemic effect ranges from 3 to 6 grams daily. This can be obtained from a whole oat product. There is some marketed oat beta-glucan nutritional supplements.

LITERATURE


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**Octacosanol**

**DESCRIPTION**
Octacosanol is a 28 carbon long-chain saturated primary alcohol. It is a constituent of vegetable waxes. Octacosanol is isolated from the wax found on green blades of wheat. It is the major long-chain alcohol isolated from the waxes of sugar cane and yams. It is also found in wheat germ oil.

Octacosanol is also known as 1-octacosanol, n-octacosanol and octacosyl alcohol. It has the following chemical formula:

\[ \text{CH}_3(\text{CH}_2)_{26}\text{CH}_2\text{OH} \]

Octacosanol (1-Octacosanol)

Octacosanol is a solid waxy substance that is insoluble in water. Octacosanol belongs to the family of fatty alcohols.

**ACTIONS AND PHARMACOLOGY**

**ACTIONS**
The action of octacosanol is unknown. It is the major long-chain alcohol in policosanol (see Policosanol), and policosanol appears to lower cholesterol and LDL-cholesterol levels. However, the role of octacosanol in the putative cholesterol-lowering activity of policosanol is unclear.

**PHARMACOKINETICS**
The absorption of octacosanol is variable and low. Octacosanol absorption, following ingestion, ranges from about 11% in rats and humans to about 28% in rabbits. Less octacosanol is absorbed on an empty stomach and more with food. The higher the lipid content of food, the greater the absorption. Octacosanol is absorbed from the small intestine into the lymph and from there enters the bloodstream. Distribution is mainly to the liver, digestive tract, skeletal muscle and adipose tissue. Octacosanol may be partly oxidized to the long-chain fatty acid, octacosanoic acid, which then undergoes beta-oxidation.
Following a single dose of octacosanol in experimental animals, peak plasma levels are observed between 30 minutes to two hours. Following a single dose of octacosanol in human volunteers, peak plasma levels are observed at one hour and four hours later. Bile is the main route of excretion. Renal excretion is negligible.

**INDICATIONS AND USAGE**

Octacosanol, like policosanol (see Policosanol), may have cholesterol-lowering effects but research will have to be done to confirm this. Similarly, there is preliminary evidence suggesting that octacosanol may increase physical endurance and that it may benefit some with Parkinson's disease. Octacosanol is not indicated for use in amyotrophic lateral sclerosis despite some claims of efficacy in this disorder.

**RESEARCH SUMMARY**

There is limited evidence that octacosanol itself may lower cholesterol levels. This needs to be researched. (See Policosanol.) There are claims that octacosanol is useful in building strength and endurance, and these claims have made the supplement popular with some body builders and athletes. There is preliminary evidence, limited to animal experiments, that octacosanol may increase voluntary exercise in the animals.

Evidence that octacosanol may help in the treatment of Parkinson's disease is very preliminary, and the use of this substance in a well-designed study of those suffering from amyotrophic lateral sclerosis showed no benefit. Neither neurologic nor pulmonary functions were improved.

**CONTRAINDICATIONS, PRECAUTIONS, ADVERSE REACTIONS**

**CONTRAINDICATIONS**

Known hypersensitivity to an octacosanol-containing product.

**PRECAUTIONS**

Octacosanol is not recommended for children, pregnant women and nursing mothers. Parkinson's disease patients taking carbidopa-levodopa may experience side effects (see Adverse Reactions).

**ADVERSE REACTIONS**

Side effects of octacosanol taken up to 20 milligrams daily are infrequent. Mild position-related nonrotational dizziness, increased nervous tension and worsening of carbidopa-levodopa-related dyskinesias have been reported in a few Parkinson's disease patients taking octacosanol.

**INTERACTIONS**

Carbidopa-levodopa: Octacosanol has been reported to worsen dyskinesias in a few Parkinson's disease patients taking carbidopa-levodopa.

No other nutritional supplement, herb or food interactions are known.

**OVERDOSAGE**

There are no reports of overdosage.

**DOSEAGE AND ADMINISTRATION**

Typical doses used are 1 to 8 milligrams (1,000 to 8,000 micrograms) daily taken with food. A dose of 20 milligrams daily should not be exceeded. Octacosanol frequently comes in mixtures with other long-chain alcohols.

**LITERATURE**


**Oleocanthal**

**DESCRIPTION**

A number of observational studies have shown that those who follow the Mediterranean diet have a lower incidence of cardiovascular disease, including heart attacks, and also a lower incidence of cancer, including breast, prostate and colorectal cancer, and other chronic degenerative diseases. The principal components of this diet are fruits, vegetables, fish, wine and olive oil. The consumption of red meat is relatively low, and olive oil is the major source of lipids in the diet. The health benefits are mainly attributed to the consumption of olive oil.

The specific substances in olive oil that appear to confer the health benefits include the monounsaturated fatty acid oleic acid and especially the polyphenolic lignans (+)-1-acetoxyphenylethylresinol and (+)-pinoreisol and the polyphenolics hydroxytyrosol and oleuropein aglycone.

In September 2005, a short communication appeared in the international science journal *Nature* describing the anti-inflammatory effects of a recently discovered (1993) olive oil polyphenol, which the authors named oleocanthal. The press immediately picked up on the article, not only because it made for an interesting story, but also because of the possibility that the substance may be the key to understanding the health benefits of olive oil.

The study reported in *Nature* was directed by Paul Breslin, Ph.D. and Gary Beauchamp, Ph.D., both of the Monell Chemical Senses Center in Philadelphia. The researchers were led to the discovery by the serendipitous observation...