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What is Taurine?

Taurine Effects Taurine Energy Drinks Taurine Supplement Taurine Facts Taurine Supplementation Taurine Taurine Vitamin Many of the most popular energy drinks contain significant amounts of taurine. Domestic cats must be given taurine in their diets. In taurine studies, diabetic rats lost weight and showed lower blood sugar levels. Taurine and creatine may help reduce muscle fatigue.

Taurine, also known as 2-aminoethanesulfonic acid, is a compound that is produced naturally in the human body. It is found in high levels in the skeletal and heart muscles, as well as in white blood cells and the central nervous system. It is an essential component in bile, and aids in the digestion of fats and the absorption of vitamins that are fat-soluble. 2-aminoethanesulfonic acid is also found in seaweed, fungi and bacteria.

The name comes from the fact that the compound was first discovered in the bile of an ox — a kind of bull. The Latin word for bull is *taurus*. Although it is often described as an <u>amino acid</u>, this is not strictly correct, chemically speaking, but it does resemble these substances.

Functions

The best understood function of taurine is in the formation of compounds in the bile that allow fats and oils to be absorbed. These compounds act like detergents in that they emulsify fats, so that they can be broken down and processed. Some essential <u>nutrients</u> are fat-soluble, so this also helps these substances to be metabolized.

Taurine is also essential to the development of the central nervous system and retina. For this reason, it is given as a <u>supplement</u> to premature babies, as they cannot yet produce this substance themselves. Some animals, such as domestic cats, are unable to produce it in adequate amounts and must therefore have it in their diets.

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It appears that 2-aminoethanesulfonic acid may act as an <u>antioxidant</u>, helping to prevent damage to cells and tissue caused by oxidation. For example, biochemical processes in the body produce hypochlorous acid (HOCl) as a by-product. This chemical is a powerful oxidant that has the potential to injure cells. Taurine combines with it to produce a much less toxic compound, taurine chloramine, suggesting that one of its roles may be to remove this toxic chemical.

Possible Benefits

Aside from its known functions in the body, many additional benefits have been claimed, although, as of 2013, some of these have yet to be proven. It may reduce high blood pressure in adults and is being tested as a potential treatment for bipolar depression. Studies on mice have shown that taking supplements while on a high fat diet kept them from gaining weight. In other studies, diabetic rats lost weight and showed lower <u>blood sugar</u> levels.

There is evidence to suggest that this compound may help relieve the symptoms associated with congestive <u>heart failure</u> (CHF), a condition that reduces the heart's ability to pump blood through the body. Studies have also suggested that it improves liver function in people suffering from some forms of viral hepatitis. Many people may be familiar with this substance as a health supplement, and it is used in a variety of products. Bodybuilders take it as a supplement coupled with <u>creatine</u>, which may help in reducing muscle fatigue and soreness.

Researchers at a well-known UK university claim that taurine may counteract the effects of heavy drinking on the liver because it prevents fat from building up in the organ. There is some concern, however, that this well-publicized finding may act as a disincentive for heavy drinkers to cut down their alcohol intake. There seems to be a popular belief that taurine-rich energy drinks may be the perfect "morning after" treatment after a night of heavy drinking.

Sources

Taurine is present in meat, fish, eggs and dairy products. Since adult humans are able to manufacture the substance from other compounds that are in plentiful supply, it is not normally considered an essential dietary requirement. Although a vegetarian diet is lacking in 2-aminoethanesulfonic acid, many meat-free foods, such as nuts and some vegetables contain the chemical building blocks from which it is manufactured in the human body. The compound is also manufactured synthetically for use in energy drinks and supplements.

Energy Drinks

Many energy drinks contain taurine as an ingredient. Their manufactures advertise many benefits, while others have expressed concern about possible negative effects, particularly if taken in combination with alcohol. The supposed benefits of these drinks include increased energy, better mental performance and improved short-term memory. Possible negative effects include dehydration and abnormal heart rhythms. Since these drinks usually also contain

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Taurine is being studied as a possible treatment for people with bipolar disorder.

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caffeine, it is difficult to determine from tests whether any positive or negative effects they produce are due to the taurine, the caffeine or a combination of both.

Possible Side Effects

Since this compound is found both in foods and in the human body in relatively large amounts, it is considered unlikely to have any adverse effects. Evidence suggests that doses of up to 0.10c (3g) per day are safe for healthy adults. It is not clear, however, what the safe dosage would be for children, pregnant women or people suffering from certain medical conditions.

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