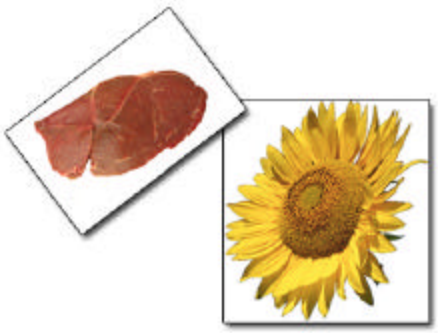
SAMe

What is SAMe?

SAMe (S-adenosylmethionine) is the bioactive form of methionine, an essential amino acid (protein) abundant in foods, but especially concentrated in meat and sunflower seeds. Supplementation with methionine alone, however, does not necessarily markedly raise the level of bioactive methionine, or SAMe.



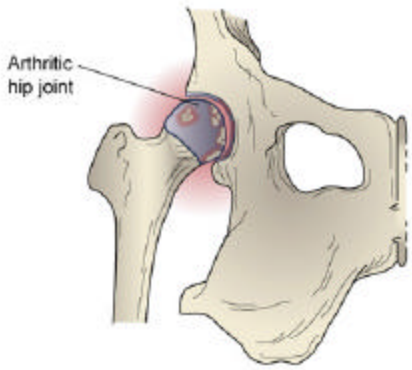
Methionine is especially abundant in meat and sunflower seeds.

SAMe is one of the most commonly used supplements in human and animal medicine, and with good reason. It is involved in over 40 key chemical reactions in the body. This is because SAMe contains both sulphur and methyl groups. Methylation reactions in the body are necessary for the formation of adequate levels of neurotransmitters, or brain chemicals. SAMe helps synthesize all neurotransmitters related to catecholamines, including epinephrine and dopamine. Epinephrine and dopamine deficiencies lead to depression and Parkinson's disease.

SAMe has shown significant promise in treating these disorders in clinical trials in humans, as well as other cerebral disorders including autism, peripheral neuropathy, spinal cord degeneration and Alzheimer's disease.

The sulphur groups of SAMe are likewise metabolically important. Glutathione, a key detoxifier and antioxidant in the body, is made from SAMe. SAMe itself also functions as an antioxidant. These antioxidant and detoxifying properties result in SAMe being able to reduce liver damage such as cirrhosis.

SAMe has several other effects in the body. It plays a key role in the breakdown of estrogen; the synthesis of carnitine (important for adequate heart function); synthesis of choline (important for cognition and brain function); synthesis of melatonin, allowing sleep; synthesis of nucleic acids so that cells can divide; degradation of histamine (reduces inflammation); and synthesis of collagen. SAMe is also an analgesic (pain reliever), and this together with its ability to promote collagen and cartilage synthesis and its anti-inflammatory properties results in it being commonly used in osteoarthritis. The efficacy of SAMe in relieving arthritic pain has approached that of many NSAIDs in clinical trials.



SAMe is of great interest in the treatment of osteoarthritis.

Why recommend administration of SAMe to my pet?

SAMe is widely prescribed for the same purposes in animals as it is in people. That is, SAMe is used for the treatment of canine cognitive disorders, suspected depression, osteoarthritis, and hepatitis. It should probably also be considered for the treatment of various neurological disorders, including degenerative myelopathy. It is appropriate for all species, since it is present in all mammals. It is probably most commonly used in dogs given their susceptibility to liver and musculoskeletal disorders.

How safe is SAMe ?

SAMe is of great interest in the treatment of osteoarthritis, because it not only reduces inflammation and pain but also helps regenerate joint tissue. This, together with its extremely low toxicity, makes it probably one of the first treatments that should be considered for the treatment of arthritic dogs and cats. Side effects of SAMe are rare, and limited to mild nausea and gastrointestinal irritation. SAMe should also be used with caution in hyperexcitable animals, since it may heighten their mood further.

Where do I obtain SAMe and do I need a prescription?

Your veterinarian may have preferred supplements that he or she will recommend. Pet owners are cautioned against buying supplements without knowledge of the manufacturer, as supplements are not highly regulated and some supplements may not contain the labelled amount of ingredients. A prescription is not needed for SAMe.

This client information sheet is based on material written by Steve Marsden, DVM ND MSOM LAc DiplCH AHG, Shawn Messonnier, DVM and Cheryl Yuill, DVM, MSc, CVH.
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