Use Of Terpenoids And Salicylates As Anesthetics, Analgesics, And Euthanasia Agents

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ABSTRACT

Researchers at the University of California, Davis have developed agents made from terpenoids and salicylates that can be used as anesthetics in human and non-human animals, as well as environmentally friendly euthanasia agents in food-producing animals.

FULL DESCRIPTION

Anesthetics allow for the performance of medical operations that would otherwise cause severe pain to patients as well as create technical barriers to the performance of these operations. Current anesthetics have drawbacks, including addictive properties requiring additional regulations, environmental contamination due to low decomposition rate, and sometimes long metabolization rates causing food-producing animal products to be temporarily unfit for consumption.

Researchers at the University of California, Davis have developed new anesthetic agents using terpenoids and salicylates that can be administered by intravenous injection in mammals. These new agents can also be used for euthanasia. Terpenoids and salicylates are naturally occurring and often aromatic compounds produced by plants and found in many foods. These compounds are generally recognized as safe ("GRAS"); therefore, these compounds can be used in food-producing animals without the need for meat and milk withholding times. The developed agents have low toxicity and high environmental decomposition properties, thus reducing environmental impact. This provides an advantage over current anesthetics used for euthanasia, as current anesthetics do not break down during animal rendering, potentially contaminating food webs. In addition to the benefits for food-producing animals, efficacy may likely translate to small animal practice. Analgesic efficacy may also have potential for translation to humans.

APPLICATIONS

- Anesthetic agents for use in human and non-human animals
- Euthanasia agents to use on food-producing animals

FEATURES/BENEFITS

- Induce anesthesia in humans and non-humans for the purpose of inducing targeted anesthetic endpoints
- Use in food-producing animals without meat or milk withholding periods
- Limited risk of food web contamination
- Agent does not have addictive properties and would not require the same regulations as other anesthetic agents

PATENT STATUS

Country	Type	Number	Dated	Case
Patent Cooperation Treaty	Published Application	2022/232231 A1	11/03/2022	2020-533

Additional Patent Pending

RELATED MATERIALS

- Robert J. Brosnan, Alessia Cenani, Lais R. Costa, Paige Condy, Courtney Snell, Analgesic effect of the mint terpenoid L-carvone in sheep, Veterinary Anaesthesia and Analgesia, 2023, ISSN 1467-2987, https://doi.org/10.1016/j.vaa.2023.06.004 - 06/28/2023

INVENTORS

- Brosnan, Robert J.

OTHER INFORMATION

KEYWORDS

anesthesia, analgesia, euthanasia, essential oils, terpenes, terpenoids, salicylates

CATEGORIZED AS

- **Medical**
  - Other
  - Therapeutics
- **Veterinary**
  - Large Animal
  - Other
  - Therapeutics

RELATED CASES

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