

ABSTRACT

NOVEL MAGNESIUM-SERINATE COMPOUND AND USE THEREOF

[00194] The present invention relates to a novel magnesium-serinate compound and the use thereof, and more particularly, to a novel magnesium-serinate compound in which a magnesium atom is chelated to L-serine, and the pharmaceutical use thereof against central nervous system diseases or the like. It was confirmed that the novel magnesium-serinate composition obtained by the production method of the present invention consisted of about 10% magnesium and about 90% serine, as determined by instrumental analysis, was solubilized at a concentration of about 500 mg/ml in water at room temperature at a pH of 6.0 to 10.0, was maintained in an aqueous solution state without forming a precipitate, and was also solubilized at a concentration of about 500 mg/ml in phosphate-buffered saline (PBS) solution at room temperature without forming a precipitate. Thus, the novel magnesium-serinate composition has properties suitable for administration orally or by injection to the human body. In addition, the compound activates mitochondrial function and neuronal cell proliferation by increasing the oxygen consumption rate of mitochondria, and exhibits a neuronal protective effect of inhibiting neuronal cell death resulting from mitochondrial membrane potential damage and/or endoplasmic reticulum

stress caused by oxidative stress, and exhibits improved blood-brain barrier permeability. Therefore, the compound has an excellent effect on the prevention, treatment and alleviation of central nervous system diseases such as cognitive disorder, intellectual disability, microcephaly, epilepsy, neurodevelopmental disorder, dementia, autism spectrum disorder, Down's syndrome, Rett's syndrome, fragile X syndrome, Alzheimer's disease, Parkinson's disease, Huntington's disease, and amyotrophic lateral sclerosis, and thus is a highly useful invention in the pharmaceutical industry, etc.

[No Suitable Figure]