**Description**

**A COMPOSITION FOR THE TREATMENT OF MALIGNANT TUMORS**

**Technical Field**

The invention relates to a composition formed for the use of 20-O-B-D-glucopyranosyl-20(S)-protopanaxatriol and the derivatives thereof in the treatment of the malignant tumors.

**State of the Art**

Tumor, or tumour, is the name given to any lump generally developing in the tissues, and in more frequently used terms, it is the name given to the benign or malign mass of neoplasia tissue. Tumors have 3 basic properties: Tumors grow without any purpose. The reason is that they have acquired autonomy. Unlike the normal tissues, there is no limit for the growth of the tumors. In other words, they grow limitlessly. The growth of the tumors may not be fully controlled by any control mechanism (apoptosis, etc.). As a result, the tumors grow in an uncontrolled manner.

Injection of powerful pro-apoptotic immune factors (tnf-a derivatives, interferon gamma) into the tumors, radiotherapy, injection of the chemotherapeutic drugs directly into the tumor, injection of the ribonucleotide reductase suppressing agents directly into the tumors and removal of tumors via surgical intervention may be listed as the examples of the current treatments for the solid tumors.

The invention no. US19980193354 entitled “Certain substituted caprolactams, pharmaceutical compositions containing the same and their use in treating the tumors” relates to certain substituted caprolactam compounds, pharmaceutical compositions containing said compounds, the use of said compounds in treating the tumors and a process for making said compounds.

The invention no. WO2005CN00111 entitled “Novel use of recombinant adenovirus-P53 agent for the treatment of the tumor patients” discloses a recombinant p53 adenovirus, which is able to reduce the side effects, including but not limited to the side effects of the antitumor chemotherapy and the radiotherapy. The invention also discloses that the recombinant p53 adenovirus may alone enable the recovery of the blood cell count, liver function and kidney function in the tumor patients, and may accordingly allow the improvement in the life quality, increase in the appetite, better mental health and the like in the tumor patients.

As a result, the presence of the need for a composition for use in treating the malignant tumors and the inadequacy of the existing solutions have made it necessary to perform an improvement in the relevant art.

**Object of the Invention**

In order to eliminate the disadvantages of the state of the art, an object of the invention is to prevent the cell division by increasing the expression of AMPK (AMP-activated protein kinase) and by disrupting the mineral balance owing to the ability to trigger the Ca(+2) calcium over-load for the tumors.

Another object of the invention is to permanently destroy the ability of cell division and the ability of the tumor to effectively synthesize cancerous cells, owing to the cytoplasmic stress induced.

Another object of the invention is to trigger the death of the cancerous cells and reduce the cell viability, owing to the ability to trigger the early cell death.

Another object of the invention is to trigger the sub-G1 accumulation in the cancerous cells and induce the nucleus condensation, thereby causing the cell to lose its entire function.

Another object of the invention is to disrupt the element and mineral balance of the tumor and disrupt the endogenous homeostasis of the tumor cells by inducing the protein kinase like endoplasmic reticulum kinase phosphorylation and eukaryotic initiation factor 2-alpha phosphorylation.

In order to achieve the aforesaid advantages, the invention is a composition for use in treating the malignant tumors, said composition being obtained by the components selected from the group comprising 20-O-B-D-glucopyranosyl-20(S)-protopanaxatriol, 20-O-B-D-glucopyranosyl-20(S)-B-D-protopanaxatriol, 20-O-glucopyranosyl-20(S)-protopanaxatriol that are used individually or in combinations.

The structural and characteristic features and all the advantages of the invention will become more clearly understood from the detailed description provided below and therefore, the evaluation must be made taking this detailed description into consideration.

**Detailed Description of the Invention**

The invention is a composition formed for the use of 20-O-B-D-glucopyranosyl-20(S)-protopanaxatriol and the derivatives thereof in the treatment of the malignant tumors.

20-O-B-D-glucopyranosyl-20(S)-protopanaxatriol has proven to be an effective component for the treatment of the solid tumors, owing to its low molecular weight, relatively long half life and tolerance-resistant action mechanism. 20-O-B-D-glucopyranosyl-20(S)-protopanaxatriol prevents the cell division by increasing the expression of AMPK (AMP-activated protein kinase) and by disrupting the mineral balance owing to the ability to trigger the Ca(+2) calcium over-load for the tumors, and permanently destroys the ability of cell division and the ability of the tumor to effectively synthesize cancerous cells, owing to the cytoplasmic stress induced.

20-O-B-D-glucopyranosyl-20(S)-protopanaxatriol, with its ability to trigger the early death of annexin V-positive cells, triggers the death of the cancerous cells and reduces the cell viability; and triggers the sub-G1 accumulation in the cancerous cells and induces the nucleus condensation, thereby causing the cell to lose its entire function.

20-O-B-D-glucopyranosyl-20(S)-protopanaxatriol disrupts the element and mineral balance of the tumor by inducing the cytosolic and mitochondrial calcium over-load, and disrupts the endogenous homeostasis of the tumor cells by inducing the protein kinase like endoplasmic reticulum kinase phosphorylation and eukaryotic initiation factor 2-alpha phosphorylation.

The composition according to the invention contains 20-O-B-D-glucopyranosyl-20(S)-protopanaxatriol, 20-O-B-D-glucopyranosyl-20(S)-B-D-protopanaxatriol, 20-O-glucopyranosyl-20(S)-protopanaxatriol.

Said formulation is obtained by a mixture of the aforesaid components according to the following ratios by weight:

33-50% 20-O-B-D-glucopyranosyl-20(S)-protopanaxatriol,

27-40% 20-O-B-D-glucopyranosyl-20(S)-B-D-protopanaxatriol,

40-10% 20-O-glucopyranosyl-20(S)-protopanaxatriol.

The composition is obtained from the aforesaid components selected from the aforesaid group and used according to the mentioned weight ratio ranges individually or in combinations.

Said invention also encompasses the use of said composition for treating the malignant tumors and the manufacture thereof for this purpose.

**CLAIMS**

1. A composition for use in treating the malignant tumors, said composition being obtained by the components selected from the group comprising 20-O-B-D-glucopyranosyl-20(S)-protopanaxatriol, 20-O-B-D-glucopyranosyl-20(S)-B-D-protopanaxatriol, 20-O-glucopyranosyl-20(S)-protopanaxatriol that are used individually or in combinations.
2. A composition according to Claim 1 characterized in that it comprises 33-50% by weight 20-O-B-D-glucopyranosyl-20(S)-protopanaxatriol.
3. A composition according to Claim 1 characterized in that it comprises 27-40% by weight 20-O-B-D-glucopyranosyl-20(S)-B-D-protopanaxatriol.
4. A composition according to Claim 1 characterized in that it comprises 40-10% by weight 20-O-glucopyranosyl-20(S)-protopanaxatriol.
5. Use of the components according to Claims 1 to 4 obtained individually or in combinations from the group consisting of 20-O-B-D-glucopyranosyl-20(S)-protopanaxatriol, 20-O-B-D-glucopyranosyl-20(S)-B-D-protopanaxatriol, 20-O-glucopyranosyl-20(S)-protopanaxatriol for the manufacture of a composition for treating the malignant tumors.

**ABSTRACT**

**A COMPOSITION FOR THE TREATMENT OF MALIGNANT TUMORS**

The invention relates to a composition formed for use in the treatment of the malignant tumors.

No figure.