**Description**

**A COMPOSITION FOR THE TREATMENT OF ACHONDROPLASIA AND GENERAL DEVELOPMENT DISORDERS**

**Technical Field**

The invention relates to a composition formed for the treatment of achondroplasia and general development disorders.

**State of the Art**

Achondroplasia is an inherited disease with autosomal dominant inheritance, which involves endochondral bone growth disorder in all the bones, although with varying degrees. There is disproportionate dwarfism in the neonates. Despite the normal appearance of the body, extremities (arms and legs) are rather short and the head is large. These individuals with blunt hands and feet are distinguished by their swinging movements as they walk slowly and by their hopping movements as they walk fast. There is deficit in the normal endochondral bone growth. Since there is no problem in membranous bone growth, their head is large in proportion to their body. The long bones grow with endochondral bone growth (by the calcification of the cartilage outline), while the flat bones growth with membranous bone growth (without the stage of cartilage, directly by the calcium deposition on osteoid).

### According to the state of the art, the invention no. JP2003113116 with classification “A61K38/00” entitled “Medicine for achondroplasia” relates to a new medicine for achondroplasia caused by the mutation of fibroblast growth factor 3 (FGFR3). The medicine according to the invention is for the achondroplasia caused by cartilage growth suppression due to the mutation of FGFR3 gene and contains a guanylyl cyclase B (GC-B)-activating substance as an active ingredient.

As a result, the presence of the need for a composition for treating achondroplasia and general development disorders 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 support the production of fibroblast growth factor-type2.

Another object of the invention is to increase the FGF-2 receptor sensitivity.

Another object of the invention is to selectively support the igf-1 expression on bone ends and increase the igf-1 mRNA expression and igf-1 receptor sensitivity.

Another object of the invention is to effectively trigger the prostaglandin E1 production in the bone tissue.

In order to achieve the aforesaid advantages, the invention is a composition for the treatment of achondroplasia and general development disorders, said composition being obtained by the components selected from the group comprising 16,20-bis(2-dimethyl)-6-O-stigmast-4-en-coumaroyl-3-one, 2,3-bis(6-oxoethyl)-4-O-dioscin, 3,5-methoxy-stigmast-6-en-phenyl-4-one, 11-oxo-alphamethyldioscin 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 treatment of achondroplasia and general development disorders. The composition according to the invention supports the production of the fibroblast growth factor-type 2, increases the FGF-2 receptor sensitivity, selectively supports the igf-1 expression on the bone ends, increases the igf-1 mRNA expression and igf-1 receptor sensitivity, and effectively triggers the increase in the production of prostaglandin E1 in the bone tissue.

The composition according to the invention contains 16,20-bis(2-dimethyl)-6-O-stigmast-4-en-coumaroyl-3-one, 2,3-bis(6-oxoethyl)-4-O-dioscin, 3,5-methoxy-stigmast-6-en-phenyl-4-one, 11-oxo-alphamethyldioscin.

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

6-10% 16,20-bis(2-dimethyl)-6-O-stigmast-4-en-coumaroyl-3-one,

14-20% 2,3-bis(6-oxoethyl)-4-O-dioscin,

22-48% 3,5-methoxy-stigmast-6-en-phenyl-4-one,

58-22% 11-oxo-alphamethyldioscin

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 achondroplasia and general development disorders and the manufacture thereof for this purpose.

**CLAIMS**

1. A composition for the treatment of achondroplasia and general development disorders, said composition being obtained by the components selected from the group comprising 16,20-bis(2-dimethyl)-6-O-stigmast-4-en-coumaroyl-3-one, 2,3-bis(6-oxoethyl)-4-O-dioscin, 3,5-methoxy-stigmast-6-en-phenyl-4-one, 11-oxo-alphamethyldioscin that are used individually or in combinations.
2. A composition according to Claim 1 characterized in that it comprises 6-10% by weight 16,20-bis(2-dimethyl)-6-O-stigmast-4-en-coumaroyl-3-one.
3. A composition according to Claim 1 characterized in that it comprises 14-20% by weight 2,3-bis(6-oxoethyl)-4-O-dioscin.
4. A composition according to Claim 1 characterized in that it comprises 22-48% by weight 3,5-methoxy-stigmast-6-en-phenyl-4-one.
5. A composition according to Claim 1 characterized in that it comprises 58-22% by weight 11-oxo-alphamethyldioscin.
6. Use of the components according to Claims 1 to 5 obtained individually or in combinations from the group consisting of 16,20-bis(2-dimethyl)-6-O-stigmast-4-en-coumaroyl-3-one, 2,3-bis(6-oxoethyl)-4-O-dioscin, 3,5-methoxy-stigmast-6-en-phenyl-4-one, 11-oxo-alphamethyldioscin for the treatment of achondroplasia and general development disorders.

**ABSTRACT**

**A COMPOSITION FOR THE TREATMENT OF ACHONDROPLASIA AND GENERAL DEVELOPMENT DISORDERS**

The invention relates to a composition formed for the treatment of achondroplasia and general development disorders.

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