**Description**

**A COMPOSITION PROMOTING DENTINE FORMATION**

**Technical Field**

The invention relates to a composition formed for promoting the dentine formation.

**State of the Art**

Dentine is a bone-like tissue, but it is harder as it contains calcium salts to a large extent (80%). It is located in the depth of enamel and cementum. Dentine has a hydroxyapatite ratio that is less than that of the enamel (about 70%), but greater than that of the bone and cementum. Calcium salts are present in the form of hydroxyapatite crystals. Dentine is the first mineralized component of the tooth with the ability of deposition and it is produced by odontoblasts.

According to the state of the art, the invention no. EP1456125B1 entitled "Amorphous silica" relates to an amorphous silica and particularly an amorphous silica suitable for use in a dental composition with the following properties: It has a weight mean particle size in the range 3 to 15 µm with at least 90 per cent by weight of particles having a size below 20 µm, a Radioactive Dentine Abrasion (RDA) determined on an aqueous slurry of the silica powder of 100 to 220, a Pellicle Cleaning Ratio (PCR), when incorporated in a dental composition at 10 per cent by weight, greater than 85, the ratio of PCR to RDA being in the range 0.4:1 to less than 1:1 and having a Plastics Abrasion Value (PAV) in the range 11 to 19.

The invention no. TR95/01169 entitled "Dental care compositions" comprises the mouth care compositions such as the mouth gels and toothpastes containing the following: a) Precipitated silica with low structure having a narrow particle size range for the soft particles, a median value (MV) particle size varying between 8-14 microns, oil absorption between 60-120 cc/100g and mercury ingress (HGI) pore space of 1.0-4.0 cc/g wherein when said precipitated silica is formulated as a dental care agent, it has a Pellicle Cleaning Ratio (PCR) varying between 70-140 and a Radioactive Dentine Abrasion (RDA) value between 60-130, the ratio of said PCR to said RDA being at least 1.1, and the RDA value remains substantially constant with increasing particle size in microns in said silica, and b) an orally acceptable carrier for dental care agent at a quantity of 0.1-99%.

Further, the invention no. EP2228175B1 entitled "Use of a powder or powder mixture for the production of a medium for pulverulent jet cleaning of dental surfaces" discloses a powder or powder mixture suitable for blasting with a powder jet applying apparatus wherein said apparatus mixes the powder or powder mixture with air in the form of a powder/air mixture and said powder and powder mixture is an alditol or contains alditol. Preferably, mannitol and/or erythritol are/is used and xylitol, with its ability to prevent the tooth decay, is also very suitable for cleaning the mineralized tooth surfaces such as dentine.

As a result, the presence of the need for a composition for promoting dentine formation 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 increase the level of igf-1 and epithelial growth factor.

Another object of the invention is to increase the expression of transforming growth factor type 1.

In order to achieve the aforesaid advantages, the invention is a composition for promoting dentine formation, said composition being obtained by the components selected from the group comprising 3,5-bis(2-dimethyl)-6-O-stigmast-4-en-coumaroyl-3-one,   7-bis(6-oxoethyl)-4-0-dioscin,   3,5-methoxy-stigmast-6-en-phenyl-4-one 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 promoting the dentine formation. The composition according to the invention increases the level of igf-1 and epithelial growth factor and increases the expression of transforming growth factor type 1.

The composition according to the invention contains 3,5-bis(2-dimethyl)-6-O-stigmast-4-en-coumaroyl-3-one,   7-bis(6-oxoethyl)-4-0-dioscin,   3,5-methoxy-stigmast-6-en-phenyl-4-one.

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

22-15% 3,5-bis(2-dimethyl)-6-O-stigmast-4-en-coumaroyl-3-one,

28-25% 7-bis(6-oxoethyl)-4-0-dioscin,

40-60% 3,5-methoxy-stigmast-6-en-phenyl-4-one

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 promoting dentine formation and the manufacture thereof for this purpose.

**CLAIMS**

1. A composition for promoting dentine formation, said composition being obtained by the components selected from the group comprising 3,5-bis(2-dimethyl)-6-O-stigmast-4-en-coumaroyl-3-one,   7-bis(6-oxoethyl)-4-0-dioscin,   3,5-methoxy-stigmast-6-en-phenyl-4-one that are used individually or in combinations.
2. A composition according to Claim 1 characterized in that it comprises 22-15% by weight 3,5-bis(2-dimethyl)-6-O-stigmast-4-en-coumaroyl-3-one.
3. A composition according to Claim 1 characterized in that it comprises 28-25% by weight 7-bis(6-oxoethyl)-4-0-dioscin.
4. A composition according to Claim 1 characterized in that it comprises 40-60% by weight 3,5-methoxy-stigmast-6-en-phenyl-4-one.
5. Use of the components according to Claims 1 to 4 obtained individually or in combinations from the group consisting of 3,5-bis(2-dimethyl)-6-O-stigmast-4-en-coumaroyl-3-one,   7-bis(6-oxoethyl)-4-0-dioscin,   3,5-methoxy-stigmast-6-en-phenyl-4-one for the manufacture of a composition for promoting dentine formation.

**ABSTRACT**

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No figure.