The invention is related to a drug that is derived from various enzymes present in the human saliva and that is embodied to prevent formation of corneal clauding and cataract diseases. The drug that is embodied to achieve the objects of the invention will, in its basic form, comprise Beta-glucuronidase, Lysozyme and Lactoperoxidase enzymes, which are present in the human saliva.
DESCRIPTION

A DRUG DERIVED FROM ENZYMES PRESENT IN THE HUMAN
SALIVA FOR USE IN PREVENTING CORNEAL CLOUDING OR
CATARACT FORMATION

Technical Field of the Invention

This invention is related to a drug embodied to prevent corneal clouding or cataract diseases.

More specifically, the invention is related to a drug that is derived from various enzymes present in the human saliva and that is embodied to prevent formation of corneal clouding and cataract diseases.

Background of the Invention

Cataract disease is the loss of transparency and clouding of the natural eye lens that is positioned behind the pupil and that enables vision. In other words, it is the distortion of vision as if looking behind a foggy glass.

When the factors behind formation of cataract is examined, it is seen that the free oxygen radicals increase and simultaneously the enzymes acting as antioxidants decreases in the natural eyepiece (that is the eye lens). This situation ends up with disruption of electrolyte balance in the eyepiece.

Despite the fact that nowadays it is possible to increase quality of vision by performing surgery in the very early stages of the cataract through the techniques used, it is mandatory to place an artificial lens by removing the opacifying lens of the patient. Therefore, in the patients subjected to cataract surgery, the natural lens
membrane where the artificial lens is positioned may opacify in time and the patient may start seeing blurry and cloudy as it was before the cataract surgery.

Nowadays, there is yet no treatment that prevents formation of cataract or that makes the cloudy lens translucent again.

In the human saliva, there are 1000 proteins, 3000 different RNAs and 400 types of beneficial bacteria that have constructive effects. There are hundreds and even thousands of components in the saliva such as the growth factors in the saliva that are effective in cell growth and renewal and lysozyme enzyme that is responsible of digesting cell wall and prevention of bacterial infections. Similarly, the saliva mixed with Potassium Rhodanide salt and molecule groups exposed to some conversions by the help of Lactoperoxidase exhibits antibacterial properties. Besides, the β-glucuronidase enzyme that catalyzes complex carbohydrates and that is present in the Lysozyme is in the content of the fluid.

Several methods related to using said enzymes and substances in the human saliva for treatment of a number of diseases are known in the art.

In the Japanese patent document No.JPH10158160A belonging to the known state of the art, it is mentioned that a material starting a reaction with the Lysozyme present in the chicken egg white and containing bucillamine salt has therapeutic properties against diabetes, cataract, Tenopathy and cystinuria.

In the International patent document No.WO2006019844Al belonging to the known state of the art, it is mentioned that cataract is one of the diseases that a composition which can be pharmaceutically applied to humans and animals can treat.

In the United States patent document No.US4961927A belonging to the known state of the art, a solution that contains Lysozyme hydrochloride and dipotassium
glycyrrhizinate is mentioned. It is also mentioned that said solution used in eye drops is also used in drug and cosmetic industries.

In the United States patent document No.US2003124112Al, belonging to the known state of the art, a mixture containing Lysozyme and lacrophyl is mentioned. Said mixture that is present in the contents of the eye drop has the property of providing microbiological protection for treatment purposes.

In the United States patent document No.US2008213188Al, belonging to the known state of the art, an ophthalmic mixture that comprises of Lysozyme re-formed after being extracted from a healthy individual, one or more lacrophyl substances, water and one or more preferably therapeutic substances is mentioned. Said mixture is helpful in eye dryness (xerophthalmia), treatment of eye injuries and cleaning of contact lenses.

Accordingly, even though the therapeutic power of the saliva has been proved by the modern science, it has not yet become a drug. Therefore, there is a need for deriving a drug from human saliva for cataract patients who lost or start to lose their vision.

**Objects and Brief Description of the Invention**

The object of this invention is to embody a drug derived by using human saliva and various enzymes within to be used in treatment of cataract disease.

Accordingly, it is aimed to obtain a drug in which enzymes present in the human saliva are used in order to prevent the enzymes acting as antioxidants in the eyepiece from decreasing, which is one of the reasons of cataract formation.
Detailed Description of the Invention

The drug that is embodied to achieve the objects of the invention will, in its basic form, comprise Beta-glucuronidase, Lysozyme and Lactoperoxidase enzymes, which are present in the human saliva.

In said invention, the enzymes present in the human saliva are extracted and turned into a drug that can be used in treatment of cataract and corneal clouding. The drug will preferably be administered to the eye as an eye drop.

Among the enzymes present in the human saliva, preferably Beta-glucuronidase will be used. In the conducted experiments, the eyepiece (lens) that lost its transparency has been removed by surgical operation, it is immersed into saliva extracted from a healthy patient and it is examined under microscope if transparency has been eventually recovered for the clouded eye. Especially, in the example where the Beta-glucuronidase enzyme is concentrated, it is observed that after 48 hours of treatment the colour of the eyepiece has gained transparency. Then a chemical component has been prepared from saliva in laboratory environment and turned into a medical drop.
CLAIMS

1. The invention is a drug that will be used in treatment of the cataract or corneal clouding; characterized by comprising enzymes derived from human saliva.

2. A drug according to Claim 1; characterized by comprising Beta-glucuronidase enzyme that is present in the human saliva.
INTERNATIONAL SEARCH REPORT

A. CLASSIFICATION OF SUBJECT MATTER

INV. A61K38/44 A61K38/46 A61K38/47 A61K35/38 A61P27/12

ADD.

According to International Patent Classification (IPC) or to both national classification and IPC.

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

A61K A51P

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

C. DOCUMENTS CONSIDERED TO BE RELEVANT

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X1 Further documents are listed in the continuation of Box C. X See patent family annex.

Date of the actual completion of the international search 19 October 2017

Date of mailing of the international search report 27/10/2017

Name and mailing address of the ISA/Authorized officer

European Patent Office, P.O. 5618 Patentlaan 2
NL-2280 HV Rijswijk
Tel. (+31-70) 340-2040,
Fax (+31-70) 340-3018

Markopoulos, Eytysia

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