ORIGINAL

ABSTRACT

2831 DEL 13

Hepatoprotective drug by using *Cichorium intybus* extract in novel polysaccharide

25 SEP 2013

The present invention provides a novel hepatoprotective drug by using *cichorium intybus* extract in novel polysaccharide i.e. partially hydrolyzed tora gum (PHTG) which leads to enhanced absorption and sustained release of the drug. PHTG not only increases the drug absorption but also reduces scarring of the liver, thus preventing liver damage. The formulation is tested for its effectiveness against DEN (Diethylnitrosamine) induced toxicity in male wistar rats and has exhibited a very promising protective role.

24.9.2013

Registrar
AMITY UNIVERSITY
UTTAR PRADESH

FIELD OF INVENTION:

The present invention relates to hepatoprotective drug formulation. More particularly the present invention relates to a novel hepatoprotective drug formulation using *Cichorium intybus* extract in novel polysaccharide i.e. partially hydrolyzed tora gum (PHTG) which leads to enhanced absorption and sustained release of the drug.

BACKGROUND AND PRIOR ART:

Liver is considered to be one of the most vital organs that functions as a centre of metabolism of nutrients such as carbohydrates, proteins and lipids and excretion of waste metabolites. Liver damage is very common since liver has to detoxicate many toxic substances. Most of the hepatotoxic chemicals damage liver cells primarily by producing reactive species which form covalent bond with the lipids of the tissue.

Publication No. WO2011080721 relates to a composition comprising extracts of Eclipta prostrata whole parts and/or Cichorium intybus seeds and/or Andrographis paniculata whole parts and/or Fumaria indica whole parts and/or Oroxylum indicum leaves and/or Ailanthus excelsa leaves and a pharmaceutically acceptable carrier, methods of obtaining the same, pharmaceutical formulations thereof and methods of using the composition as hepatoprotective which is useful in treating liver disorders such as jaundice, cirrhosis, non-alcoholic fatty liver disease etc. and other liver disorders due to infection and chemotherapy in humans.

Publication No. 20110015140 relates to the use of chicoric acid for manufacturing a composition intended for prevention or treatment in an insulin-resistant patient or hypoinsulinemia and/or associated pathologies.

Publication No. EP0890360 relates to a novel polyherbal composition for treating acute Hepatitis E virus infection including acute liver failure due to HEV infection comprising essentially extracts of plants Rheum emodi Wall., Phyllanthus amarus Linn., Eclipta alba Hassk., Andrographis paniculate Nees., and Picrorhiza kurroa Royle ex Benth., and optionally Fumaria officinalis,

Tinospora cordifolia Miers. Terminalia chebula Retz., Cichorium intybus Linn., Tephrosea purpurea Linn. and Boerhaavia diffusa Linn.

The present invention provides a novel hepatoprotective drug formulation using *Cichorium intybus* extract in novel polysaccharide i.e. partially hydrolyzed tora gum (PHTG) which leads to enhanced absorption and sustained release of the drug.

OBJECTS OF THE INVENTION:

The primary object of the present invention is to provide a novel formulation for hepatoprotective drug by using cichorium intybus extract in novel polysaccharide.

Another object of the present invention is to provide a novel formulation with a novel polysaccharide which leads to enhanced absorption and sustained release of the drug.

Yet another object of the present invention is to provide a novel formulation that not only increases the drug absorption but also reduces scarring of liver, thus preventing liver damage.

Still another object of the present invention is to provide a commercially viable sustained release formulation for hepatoprotection.

Another object of the present invention is to provide a novel formulation having standardized cichorium intybus extract that has no side effects.

At the outset of the description that follows, it is to be understood that the ensuing description only illustrates a particular form of this invention. However, such a particular form is only an exemplary embodiment and is not intended to be taken restrictively to imply any limitation on the scope of the present invention.

BRIEF DESCRIPTION OF THE INVENTION:

Accordingly the present invention relates to a novel formulation for hepatoprotective drug by using *Cichorium intybus* extract in novel polysaccharide i.e. partially hydrolyzed tora gum (PHTG). PHTG not only increases the drug absorption but also reduces scarring of the liver, thus preventing liver damage. The formulation is tested for its effectiveness against DEN (Diethylnitrosamine) induced toxicity in male wistar rats and has exhibited a very promising protective role.

For biochemical analysis, ALT, AST, ALP, LPO, GSH, GST, GPx, GR, SOD and Catalase are done. 1D SDS-PAGE & 2D Electrophoresis is carried out in the diseased and treated animals for pharmacodynamic analysis.