

In another example, the present disclosure relates to a use of the isolated peptide as described herein in the manufacture of a pharmaceutical composition for treating a disease, wherein the disease is an inflammatory or degenerative disease. According to examples of the present disclosure, the peptide is for use in treating a disease associated with apoptosis.

5 According to examples of the present disclosure, the disease associated with apoptosis is an inflammatory or degenerative disease.

According to examples of the present disclosure, the inflammatory disease is an autoimmune disease.

10 According to examples of the present disclosure, the degenerative disease is a neurodegenerative disease.

According to examples of the present disclosure, the disease associated with apoptosis is selected from the group consisting of age-related macular degeneration (AMD), retinitis pigmentosa, stroke and myocardial infarction.

15 Unless otherwise defined, all technical and/or scientific terms used herein have the same meaning as commonly understood by one of ordinary skill in the art to which the disclosure pertains. Although methods and materials similar or equivalent to those described herein can be used in the practice or testing of examples of the disclosure, exemplary methods and/or materials are described below. In case of conflict, the patent specification, including definitions, will control. In addition, the materials, methods, and examples are illustrative only and are not intended to be
20 necessarily limiting.

DESCRIPTION OF SPECIFIC EMBODIMENTS OF THE INVENTION

The present invention, in some embodiments thereof, relates to compositions and methods of using same for treating inflammatory and autoimmune diseases.

25 Before explaining at least one embodiment of the invention in detail, it is to be understood that the invention is not necessarily limited in its application to the details set forth in the following description or exemplified by the Examples. The invention is capable of other embodiments or of being practiced or carried out in various ways.

30 The multi-proline peptide LPPLPYP (SEQ ID NO: 42), also known as IPL344 and Stressin-1) is a short 7 amino acids peptide that protects cells of various types from pro-apoptotic pressures and activates the Akt signaling system. It is a candidate for treating degenerative, inflammatory and autoimmune diseases.

Whilst researching the contribution of the individual amino acids of the peptide, the present inventors surprisingly found that particular amino acid replacements of the core sequence showed a significant improvement in reduction of the amount of dexamethasone-induced spleen and/or thymus weight loss in mice, whereas other replacements and/or deletions severely diminished the

WHAT IS CLAIMED IS:

1. An isolated peptide being no longer than ten amino acids which comprises an amino acid sequence selected from the group consisting of SEQ ID NOs: 6-13, wherein the peptide is capable of reducing the amount of dexamethasone-induced spleen and/or thymus weight loss in a mouse.
2. The isolated peptide of claim 1, consisting of the amino acid sequence selected from the group consisting of SEQ ID NOs: 6-13.
3. The isolated peptide of claim 1, wherein the peptide is attached to a cell penetrating moiety.
4. The isolated peptide of claim 3, wherein said cell penetrating moiety is attached to an N-terminus of the peptide.
5. A pharmaceutical composition comprising the peptide of any one of claims 1-2 as an active agent and a physiologically acceptable carrier.