



## Patent: Composition for the treatment or prevention of diabetes

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### Description

The present invention refers to a **composition** comprising a **growth factor and an inhibiting agent**, which can be used in the **preparation of a drug that could be used for the treatment or prevention of *diabetes mellitus***. Thus, the present invention offers a **response to the problem of loss of functionality and/or mass of the pancreatic beta cells in *diabetes mellitus***.

### Need or problem solved

- *Diabetes mellitus* is a serious health problem because of both its prevalence and the critical chronic complications that it develops. A mayor issue in the development of diabetes is the reduction in number of the pancreatic beta cells producing insulin and the inability to produce sufficient insulin in order to maintain normoglycaemia.
- In the case of type-1 diabetes, the progressive immune destruction of the beta cells brings about a reduction in absolute terms of the beta mass. In type-2 diabetes, both the functionality and the mass of the beta cells are insufficient; moreover, the body cells do not have a normal response to the insulin produced and, therefore, there is an increase in the demand for this hormone.
- One of the most promising **approaches** for the **treatment of diabetes** is the **transplant of pancreatic islets**. However, this therapy still faces many **limitations** such as the **insufficient number of pancreatic islets for transplant** and the **low *in vitro* extraction and proliferation yields**, the latter, unfortunately, entailing a **loss of the ability to secrete the insulin hormone by the pancreatic beta cells**.
- This **invention provides responses to these problems**, as it makes it possible to induce the proliferation of pancreatic beta cells and increase their insulin-releasing capacity.
- Thus, this composition could be used for ***in vitro* cultures of pancreatic islets** or of their **beta cells obtained from animals and humans**, as well as for their **administration to animals**, preferably mammals, for the **proliferation *in vivo*** of their own islets and pancreatic beta cells and, later, for their **extraction for transplants**.

### Innovative issues/Competitive advantages

- The compositions in the present invention can be formulated for their **administration to animals** and, preferably, to mammals, including humans, in a variety of ways already known in the state of the art.
- Without limitations, the compositions in the present invention can be part of **aqueous or non-aqueous solutions, emulsions or suspensions and, alternatively, can be prepared for their administration as solids**

### Types of interested companies

- Public health agencies
- Research units
- Clinical/biomedicine laboratories
- Pharmaceutical companies performing R&D