

**Abstract**

5 The present invention relates to measures for determining glucose and for diagnosing diseases based on impaired glucose metabolism. In particular the present invention relates to the use of a polymer-based hydrogel consisting of at least one water-soluble polymer in a sensor for enriching a dissolved glucose-binding protein, wherein the at least one water-soluble polymer is capable of interacting with the glucose-binding protein and wherein the glucose-binding protein is present in a complex with a ligand.