

Abstract

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 a device comprising a hydrogel having a glucose-binding protein and a ligand of the glucose-binding protein incorporated therein, wherein the hydrogel comprises a first hydrogel matrix made of alginate and a second hydrogel matrix which forms an interpenetrating network within the first hydrogel matrix. The invention further relates to the use of such a device for determining the glucose content in a sample and to the use of the device for diagnosing impaired glucose metabolism in a test subject.