INTRODUCTION Apoptosis \(\beta\)-cell can be considered one of the causes of the onset and progression of type 1 diabetes mellitus (DM1). Therapies aimed at improving the function of pancreatic \(\beta\)-cells are considered as promising in the process of slowing down the evolution of DM1. In this regard, it is known that acts Vildagliptin at inhibiting the dipeptidyl peptidase IV (DPP-IV), enzyme that degrades glucagon-like peptide (GLP-1), an incretin hormone capable of preserving pancreatic \(\beta\)-cell. OBJECTIVES This work aims to evaluate potential neogene Vildagliptin on pancreatic \(\beta\)-cell in rats with Alloxan-induced type 1 diabetes. METHODS Female albino Fischer rats weighing 200 g were distributed in four groups: an untreated control group (C), a control group treated with 5 mg Vildagliptin (kg body mass\(^{-1}\)) (CV), an untreated diabetic group (D), and a diabetic group treated with 5 mg Vildagliptin (kg body mass\(^{-1}\)) (DV). To induce diabetes, we treated the rats intraperitoneally with 135 mg/kg Alloxan. Thirty days after diabetes induction the animals received oral treatment with Vildagliptin for 30 consecutive days. In euthanasia, the pancreas and blood were collected for histopathological and biochemical analyzes. This work was approved by the Ethics Committee on Animal Use (CEUA) of Universidade Federal de Ouro Preto (#2011/27). The results were expressed as mean ± SE and analyzed by Student's t-test. Differences were considered significant when \(p<0.05\). RESULTS Treatment with Vildagliptin was able to increase the insulin levels and improve homeostasis model assessment (HOMA%BETA) index of the diabetic animals. Moreover, histopathological analysis revealed that treatment with Vildagliptin significantly increased the numbers of \(\beta\)-cell relative to the untreated diabetic group. CONCLUSION Vildagliptin treatment is capable of qualitatively and quantitatively improve the mass \(\beta\)-cell in an animal model of late stage type 1 diabetes. Acknowledgements: FAPEMIG

Key words: \(\beta\)-cell, Type 1 diabetes, Vildagliptin.