Reviewer’s report

Title: Closed-loop insulin delivery for treatment of type 1 diabetes

Version: 1 Date: 31 August 2011

Reviewer: Eric Renard

Reviewer’s report:

This review is a well-presented summary of the recent developments of closed-loop insulin delivery. The contributions of the authors in these recent advances give a high value to their manuscript. The perspectives are also of interest.

Minor but necessary revisions should include:

1- a mention of recent innovative approaches in terms of MPC algorithms based on multimodular structure, control to range and ‘zone’ MPC control:

Kovatchev BP, Patek SD, Dassau E, Doyle FJ III, Magni L, De Nicolao G, and Cobelli


2- A table that summarizes the achievements in terms of near-normal glucose control of the various recent clinical trials using different types of algorithms would be useful to illustrate the current safety and effectiveness of closed-loop insulin delivery to the readership. It would also support the open perspectives for home use.

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:
I received honoraria as consultant and speaker for Medtronic, Roche Diagnostics, Animas, Abbott Diabetes Care, Eli-Lilly, Novo-Nordisk, Sanofi. I also received research support from Insulet, DexCom, Medtronic and Abbott Diabetes Care.