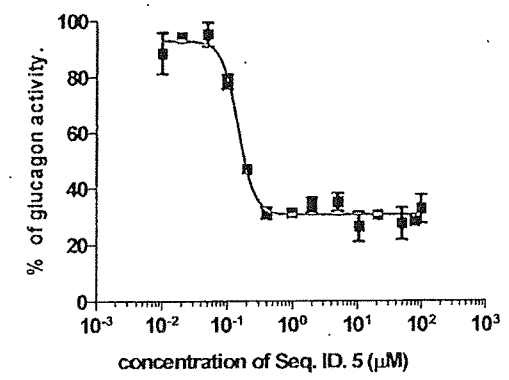
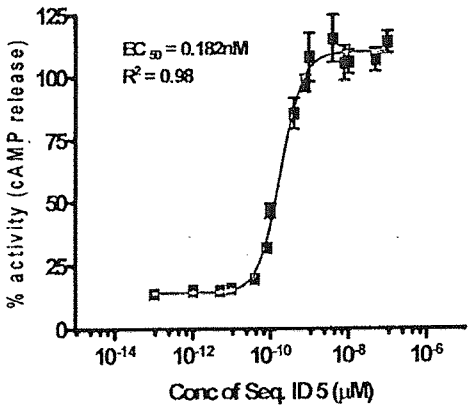
Drawings

Figure 1: *In vitro* Human Glucagon receptor antagonistic activity and GLP-1 receptor agonistic activity with **Seq. ID. No.5.**



A



B

Figure A showed % inhibition of glucagon peptide activity in human glucagon receptor overexpressed in CHO cell lines, incubated with different concentration of **Seq. ID 5**; **Figure B** showed % activity (cAMP release) wrt Ex-4, with **Seq. ID 5**, in human GLP-1 receptor overexpressed in CHO cell lines.

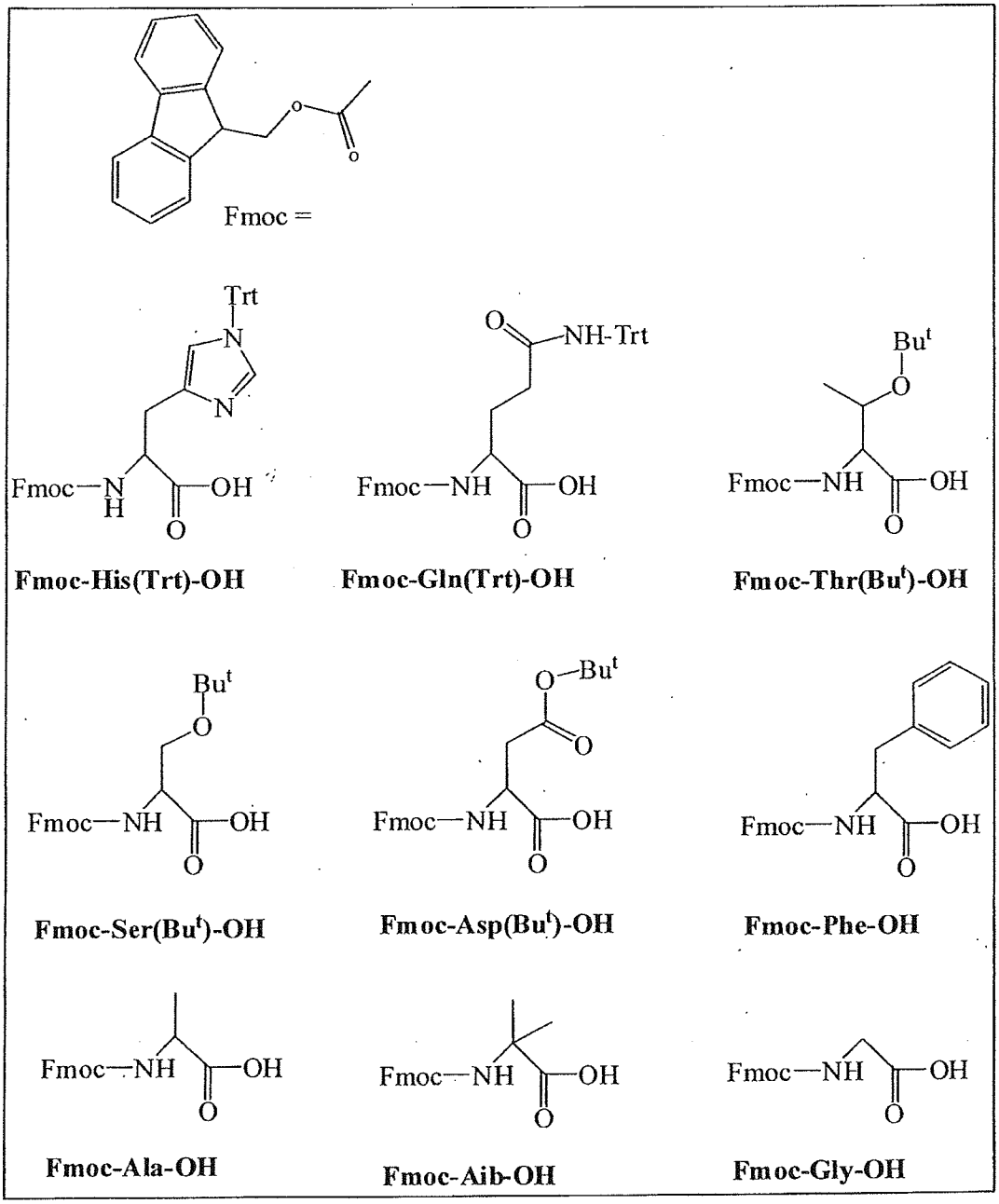


Figure 2: Examples of orthogonally protected amino acids used in Fmoc based-solid phase peptide synthesis (SPPS) of peptidomimetics.

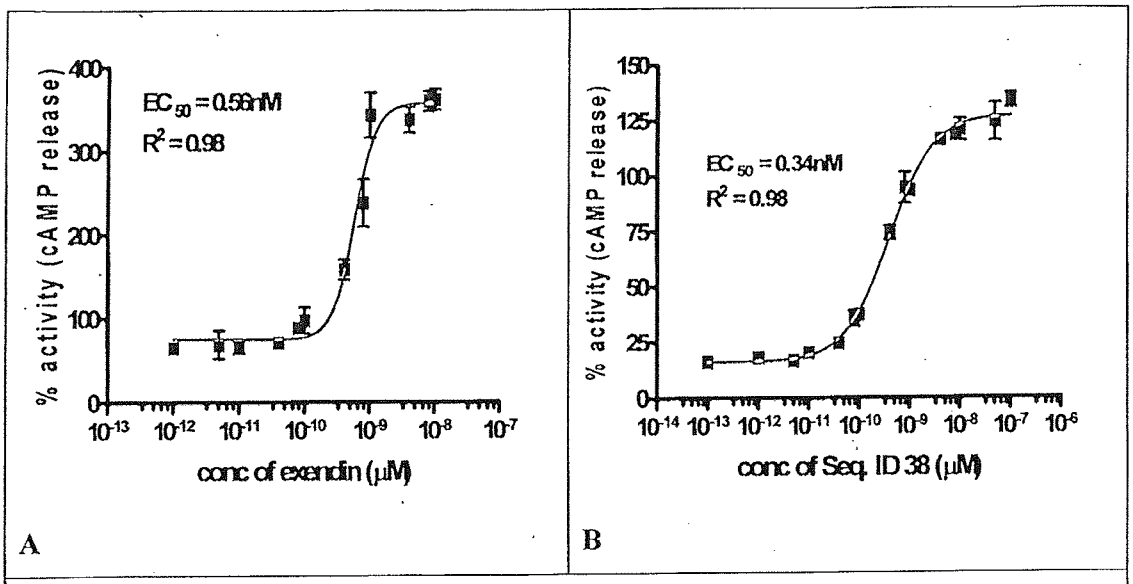
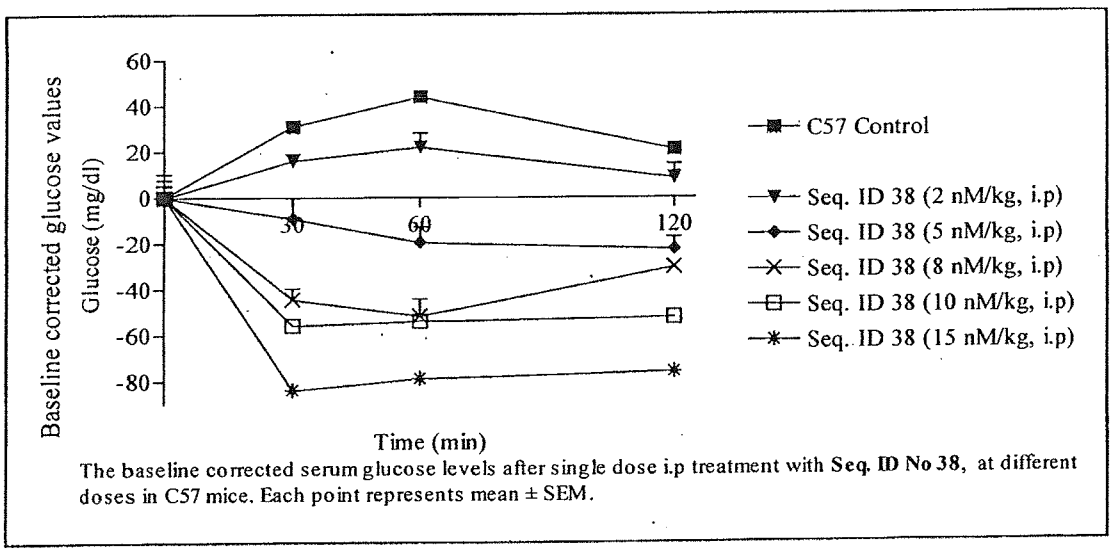
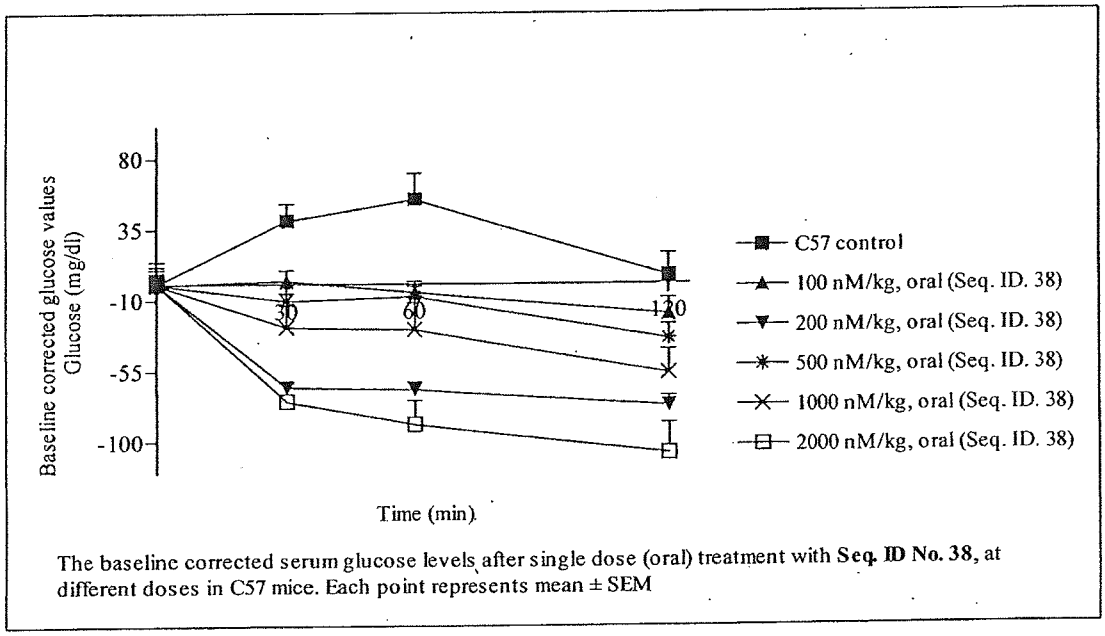


Figure 3: *In vitro* DRC and EC_{50} determination of Exendin (**Figure A**) and **Seq. ID No. 38 (Figure B)**, in H GLP-1 R assay (agonistic activity, measured by amount of cAMP released)



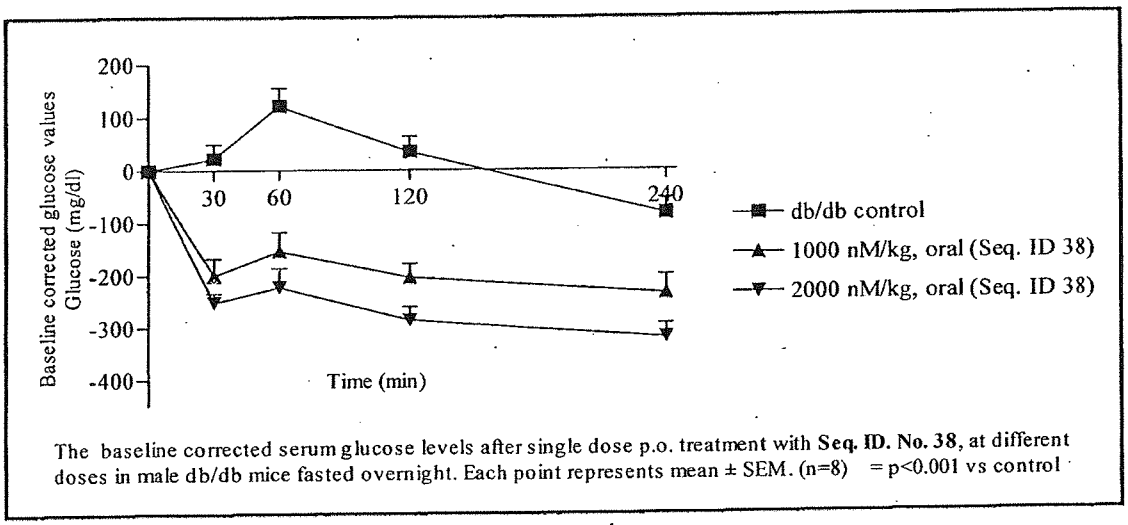
The baseline corrected serum glucose levels after single dose i.p treatment with **Seq. ID No 38**, at different doses in C57 mice. Each point represents mean ± SEM.

Figure 4: *In vivo* glucose reduction in C57 mice, with **Seq. ID No. 38**, after intraperitonial (i.p) administration (dose response curve (DRC))



The baseline corrected serum glucose levels after single dose (oral) treatment with **Seq. ID No. 38**, at different doses in C57 mice. Each point represents mean ± SEM

Figure 5: *In vivo* glucose reduction in C57 mice, with **Seq. ID No. 38**, after oral (po) administration (dose response curve (DRC))



The baseline corrected serum glucose levels after single dose p.o. treatment with **Seq. ID. No. 38**, at different doses in male db/db mice fasted overnight. Each point represents mean ± SEM. (n=8) = $p<0.001$ vs control

Figure 6: *In vivo* glucose reduction in db/db mice, with **Seq. ID No. 38**, after oral (po) administration.

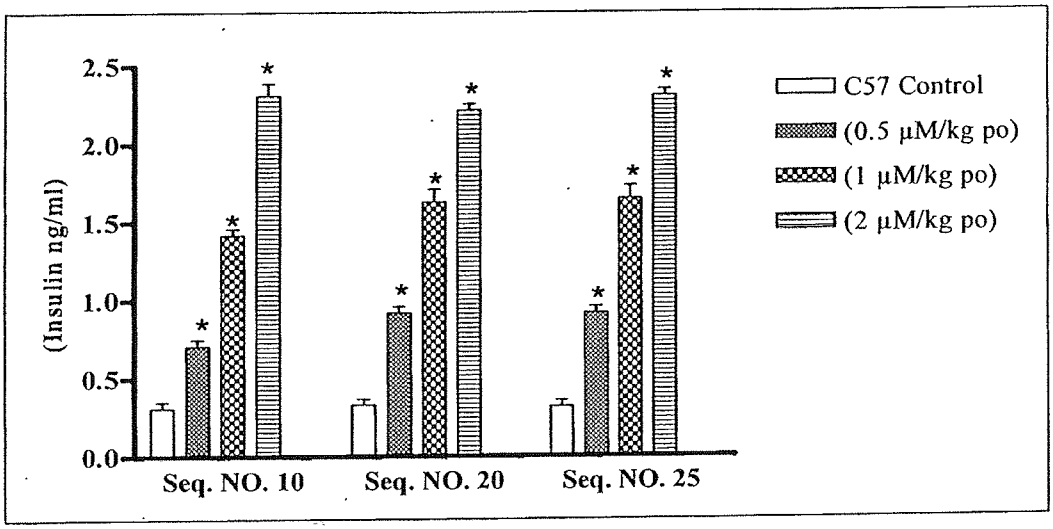


Figure 7: The serum insulin levels after single oral administration of vehicles / test compounds (**Seq. ID. No. 10, 20 and 25**), in C57BL/6J mice (*in vivo*).