Title: Non-peptidyl small molecule, adenosine, 5'-Se-methyl-5'-seleno-, 2',3'-diacetate, activates insulin receptor and attenuates hyperglycemia in type 2 diabetic *Lepr*$^{db/db}$ mice

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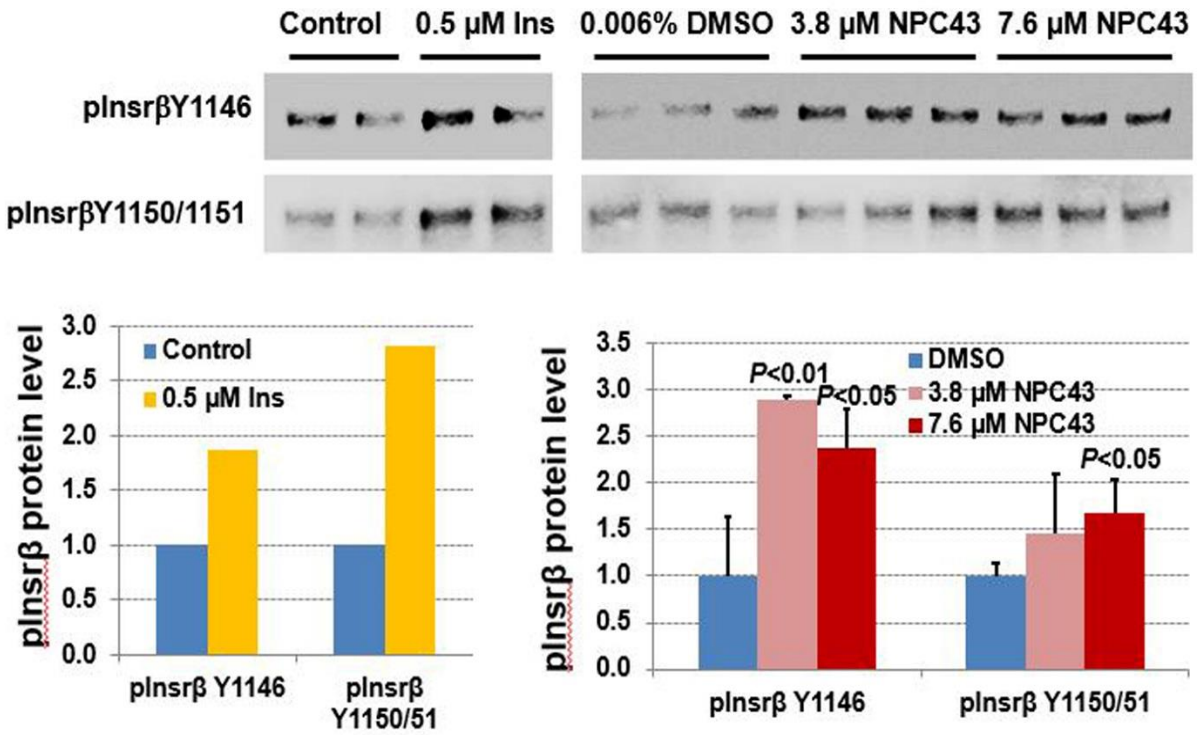
Supplementary Material-12



Activation of rat liver Insr protein by 0.5 µM insulin and 3.8-7.6 µM NPC43, as determined by cell-free *in vitro* phosphorylation assays. Equal amounts of purified rat liver Insr protein (final concentration: 1.63 µM) were incubated without (control, duplicates) or with 0.5 µM insulin (duplicates), 0.006% (v/v) DMSO (the NPC43 solvent, triplicates), or NPC43 (3.8 or 7.6 µM, triplicates/group) and then subjected to *in vitro* phosphorylation assays in the presence of ATP. Activated Insr (i.e. pInsrβ Y1146 and pInsrβ Y1150/1151) proteins in each sample was detected by Western blot analysis using its specific antibody. Protein band densities in Western blots were obtained using NIH Image J software and shown in bar graphs. In the left bar graph, data are presented as mean of duplicates per group. In the right bar graph, data are presented as Mean ± SD of triplicates per group and *P* value (the NPC43-treated groups vs. 0.006% DMSO group) was determined by performing *Student's t-test*.