

## **Supplementary material**

Figures S1–S8: details of western blot membranes

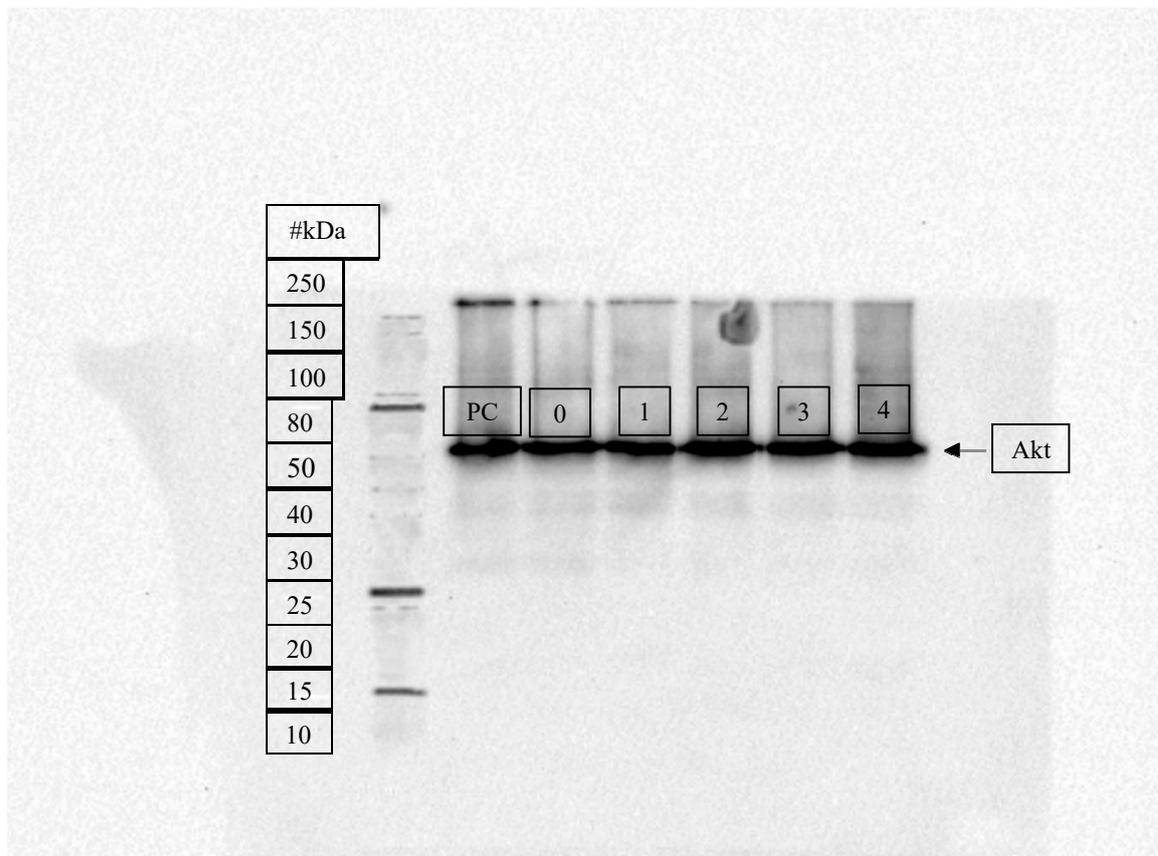


Figure S1. Western Blot membrane of Akt protein (56 kDa) detected with anti-Akt (1:1000, Cell Signaling C67E7). SDS page were transferred to nitrocellulose membranes (0.2  $\mu\text{m}$  pore size; Bio-Rad) by semidry electroblotting (100 V, 2 hours). Membranes were incubated with an anti-rabbit secondary antibody (Cell Signaling 65-6120; 1:4000) and detection was performed using an enhanced chemiluminescence protocol (SuperSignal West Pico PLUS Chemiluminescent Substrate [ThermoFisher]). #Weight marker (kDa) used: Protein Ladder BioLabs p7703s, 10 to 250 kDa. Blot images, were converted to grayscale with ImageJ software (v. 1.52a, National Institute of Health, USA). PC: Positive control; 0: Control group; 1, 2, 3 and 4 – lugol treatments (30 minutes).

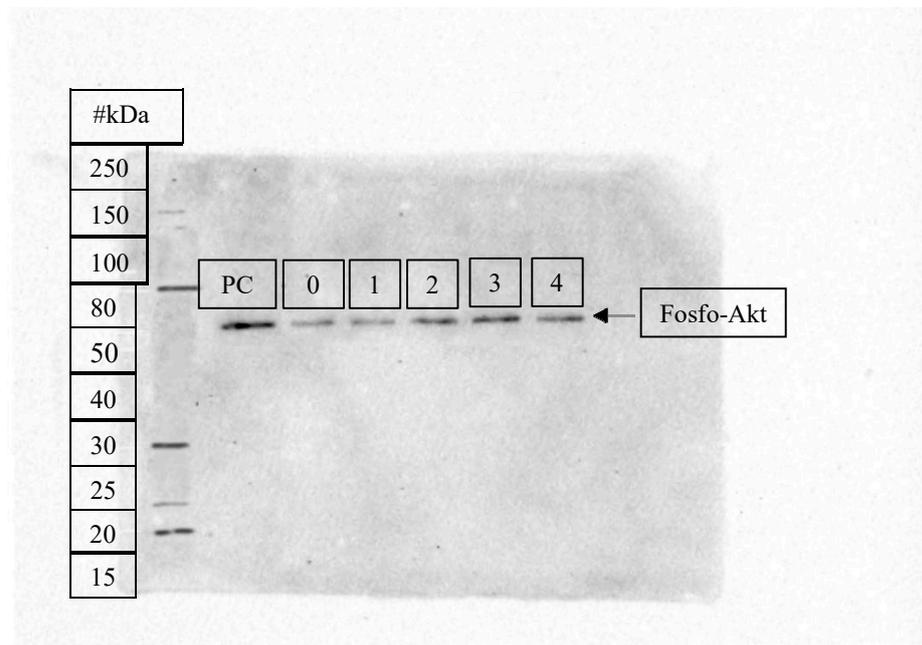


Figure S2. Western Blot membrane of Akt ser473 protein (56 kDa) detected with anti-fosfo-Akt (1:1000, Cell Signaling 9271). SDS page were transferred to nitrocellulose membranes (0.2  $\mu\text{m}$  pore size; Bio-Rad) by semidry electroblotting (100 V, 2 hours). Membranes were incubated with an anti-rabbit secondary antibody (Cell Signaling 65-6120; 1:4000) and detection was performed using an enhanced chemiluminescence protocol (SuperSignal West Pico PLUS Chemiluminescent Substrate [ThermoFisher]). #Weight marker (kDa) used: Protein Ladder BioLabs p7703s, 10 to 250 kDa. Blot images, were converted to grayscale with ImageJ software (v. 1.52a, National Institute of Health, USA). PC: Positive control; 0: Control group; 1, 2, 3 and 4 – lugol treatments (30 minutes).

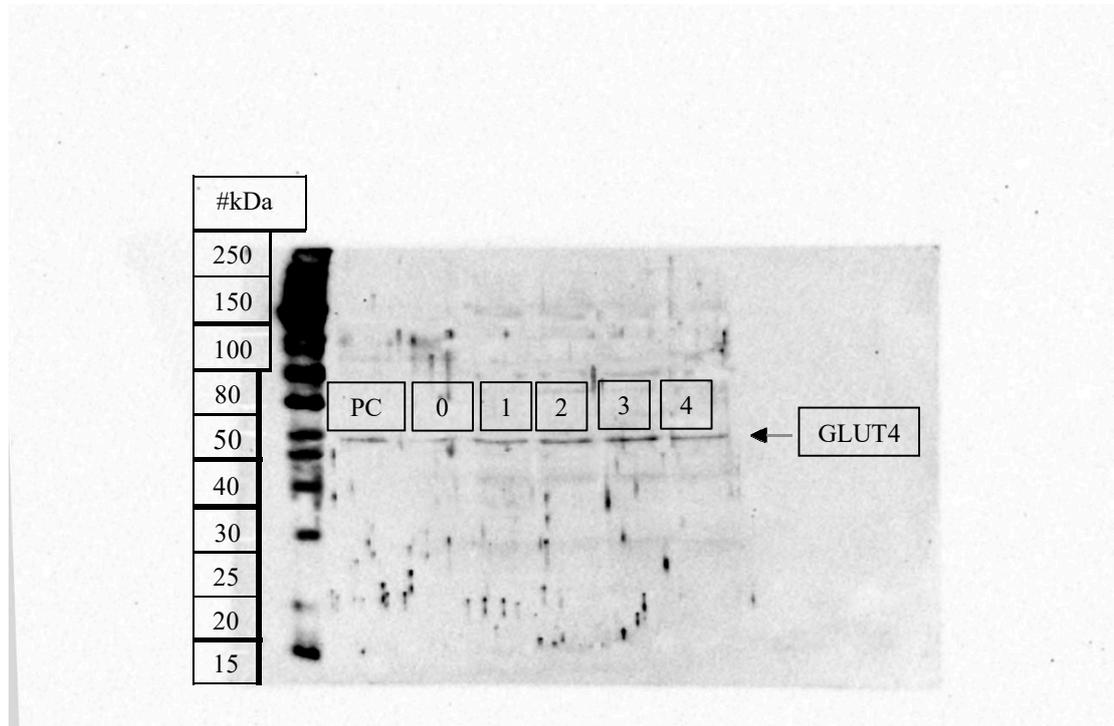


Figure S3. Western Blot membrane of GLUT4 protein (55 kDa) detected with anti-GLUT4 (1:2000, ab654 Abcam). SDS page were transferred to nitrocellulose membranes (0.2  $\mu\text{m}$  pore size; Bio-Rad) by semidry electroblotting (100 V, 2 hours). Membranes were incubated with an anti-rabbit secondary antibody (Cell Signaling 65-6120; 1:4000) and detection was performed using an enhanced chemiluminescence protocol (SuperSignal West Pico PLUS Chemiluminescent Substrate [ThermoFisher]). #Weight marker (kDa) used: Protein Ladder BioLabs p7703s, 10 to 250 kDa. Blot images, were converted to grayscale with ImageJ software (v. 1.52a, National Institute of Health, USA). PC: Positive control; 0: Control group; 1, 2, 3 and 4 – lugol treatments (30 minutes).

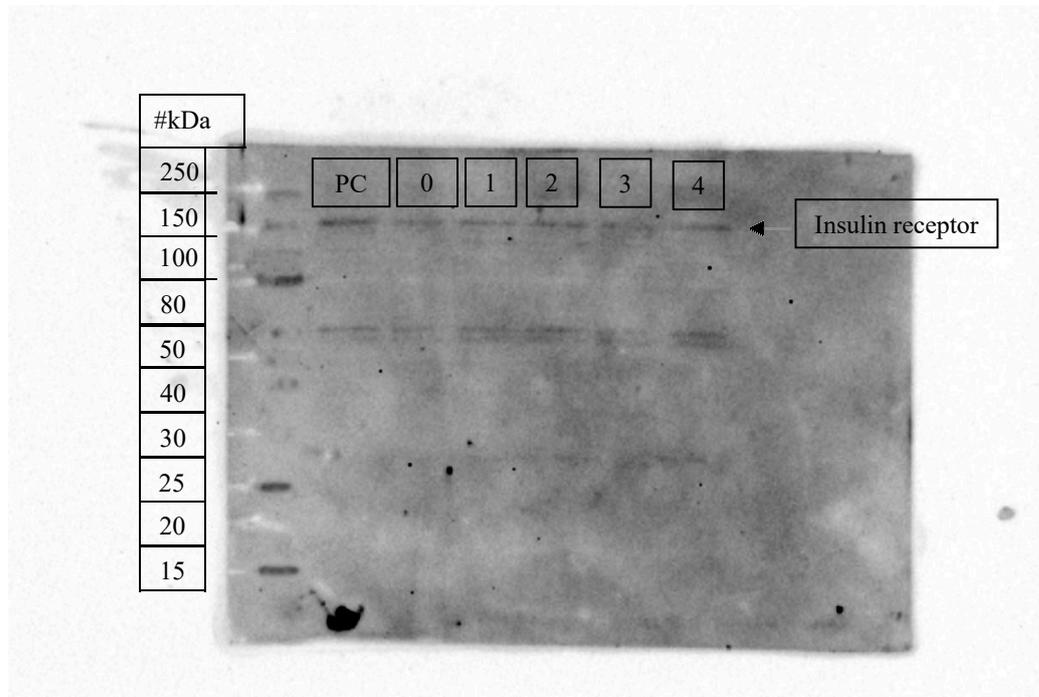


Figure S4. Western Blot membrane of insulin receptor protein (125 kDa) detected with anti-Insulin receptor alpha (1:2000, ab5500 Abcam). SDS page were transferred to nitrocellulose membranes (0.2  $\mu\text{m}$  pore size; Bio-Rad) by semidry electroblotting (100 V, 2 hours). Membranes were incubated with an anti-rabbit secondary antibody (Cell Signaling 65-6120; 1:4000) and detection was performed using an enhanced chemiluminescence protocol (SuperSignal West Pico PLUS Chemiluminescent Substrate [ThermoFisher]). #Weight marker (kDa) used: Protein Ladder BioLabs p7703s, 10 to 250 kDa. Blot images, were converted to grayscale with ImageJ software (v. 1.52a, National Institute of Health, USA). PC: Positive control; 0: Control group; 1, 2, 3 and 4 – lugol treatments (30 minutes).

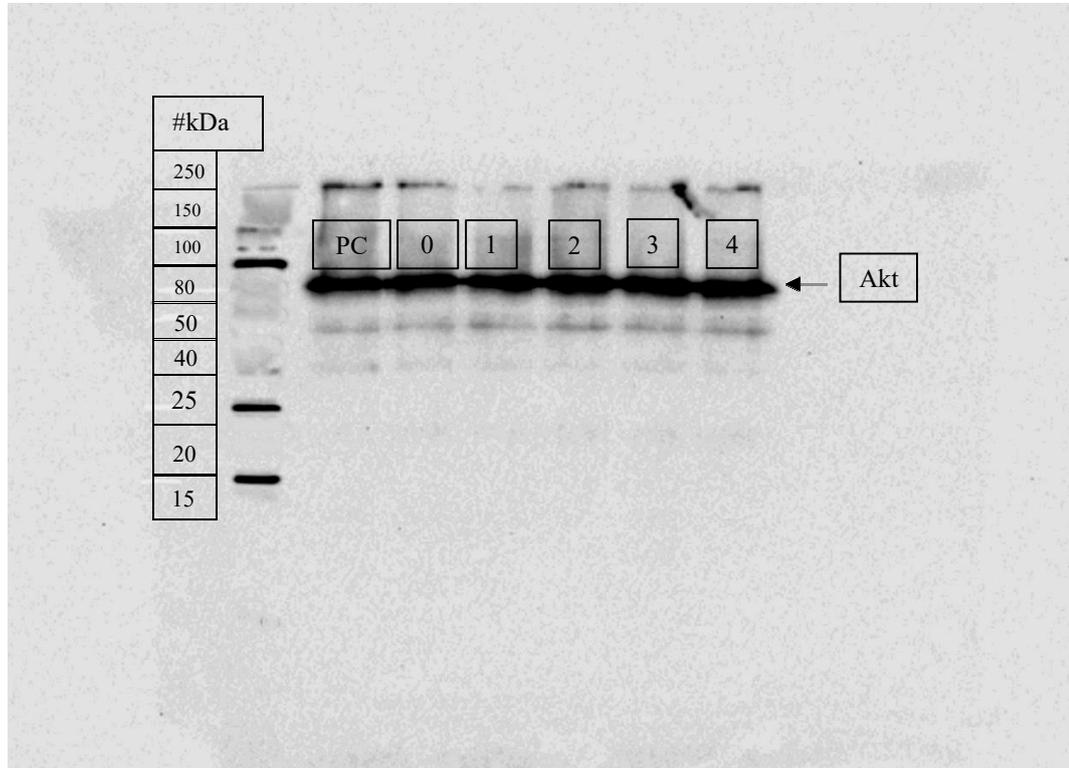


Figure S5. Western Blot membrane of Akt protein (56 kDa) detected with anti-Akt (1:1000, Cell Signaling C67E7). SDS page were transferred to nitrocellulose membranes (0.2  $\mu\text{m}$  pore size; Bio-Rad) by semidry electroblotting (100 V, 2 hours). Membranes were incubated with an anti-rabbit secondary antibody (Cell Signaling 65-6120; 1:4000) and detection was performed using an enhanced chemiluminescence protocol (SuperSignal West Pico PLUS Chemiluminescent Substrate [ThermoFisher]). #Weight marker (kDa) used: Protein Ladder BioLabs p7703s, 10 to 250 kDa. Blot images, were converted to grayscale with ImageJ software (v. 1.52a, National Institute of Health, USA). PC: Positive control; 0: Control group; 1, 2, 3 and 4 – lugol treatments (6 hours).

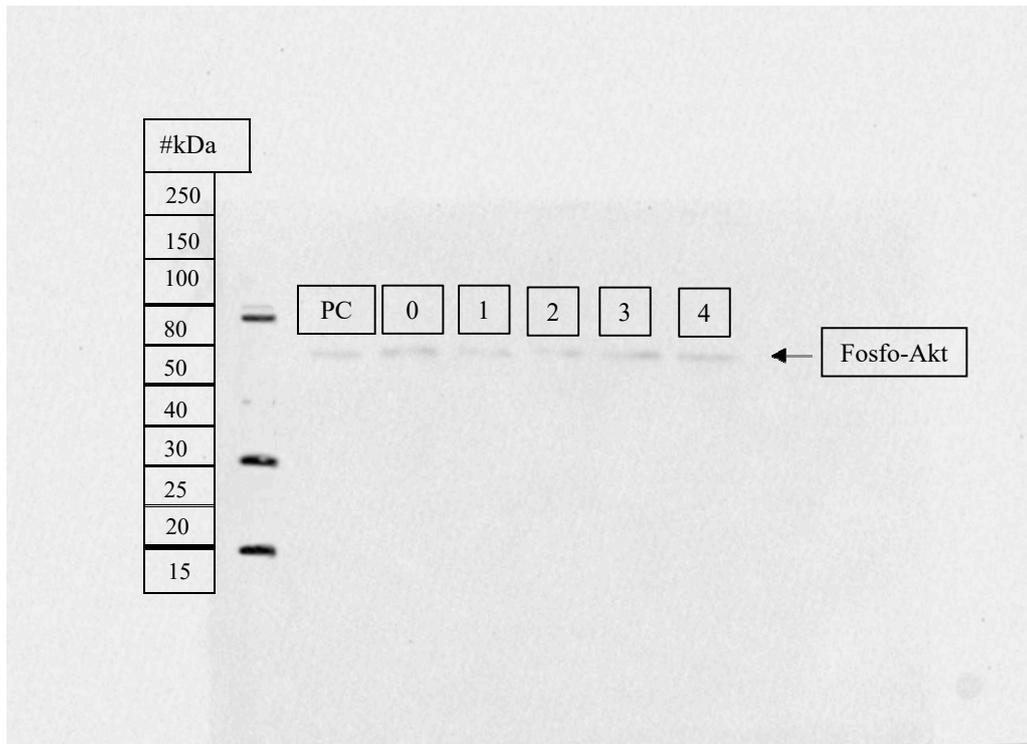


Figure S6. Western Blot membrane of Akt ser473 protein (56 kDa) detected with anti-fosfo-Akt (1:1000, Cell Signaling 9271). SDS page were transferred to nitrocellulose membranes (0.2  $\mu$ m pore size; Bio-Rad) by semidry electroblotting (100 V, 2 hours). Membranes were incubated with an anti-rabbit secondary antibody (Cell Signaling 65-6120; 1:4000) and detection was performed using an enhanced chemiluminescence protocol (SuperSignal West Pico PLUS Chemiluminescent Substrate [ThermoFisher]). #Weight marker (kDa) used: Protein Ladder BioLabs p7703s, 10 to 250 kDa. Blot images, were converted to grayscale with ImageJ software (v. 1.52a, National Institute of Health, USA). PC: Positive control; 0: Control group; 1, 2, 3 and 4 – Iugol treatments (6 hours).

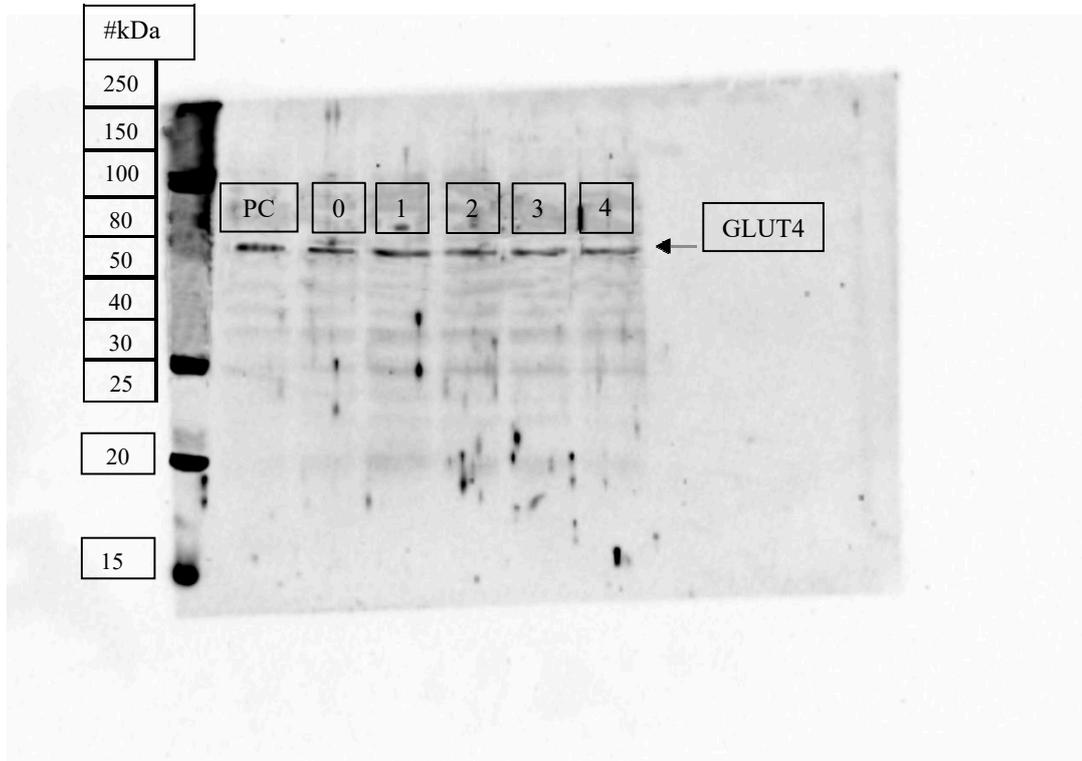


Figure S7. Western Blot membrane of GLUT4 protein (55 kDa) detected with anti-GLUT4 (1:2000, ab654 Abcam). SDS page were transferred to nitrocellulose membranes (0.2  $\mu\text{m}$  pore size; Bio-Rad) by semidry electroblotting (100 V, 2 hours). Membranes were incubated with an anti-rabbit secondary antibody (Cell Signaling 65-6120; 1:4000) and detection was performed using an enhanced chemiluminescence protocol (SuperSignal West Pico PLUS Chemiluminescent Substrate [ThermoFisher]). #Weight marker (kDa) used: Protein Ladder BioLabs p7703s, 10 to 250 kDa. Blot images, were converted to grayscale with ImageJ software (v. 1.52a, National Institute of Health, USA). PC: Positive control; 0: Control group; 1, 2, 3 and 4 – lugol treatments (6 hours).

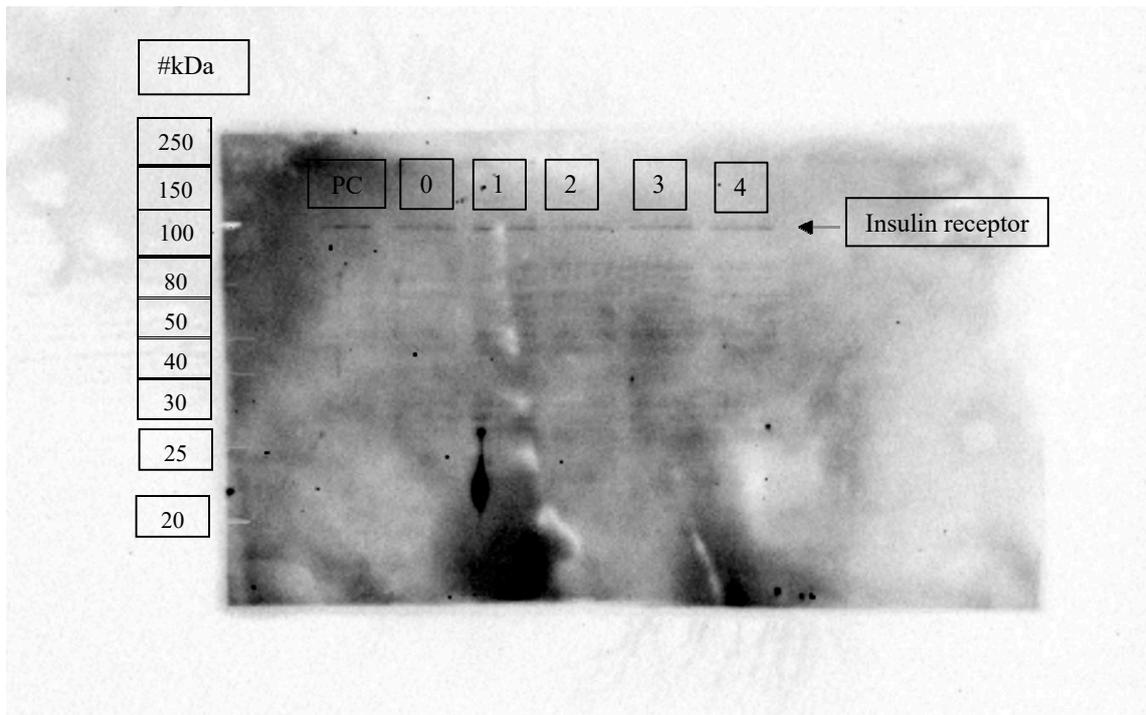


Figure S8. Western Blot membrane of insulin receptor protein (125 kDa) detected with anti-Insulin receptor alpha (1:2000, ab5500 Abcam). SDS page were transferred to nitrocellulose membranes (0.2  $\mu\text{m}$  pore size; Bio-Rad) by semidry electroblotting (100 V, 2 hours). Membranes were incubated with an anti-rabbit secondary antibody (Cell Signaling 65-6120; 1:4000) and detection was performed using an enhanced chemiluminescence protocol (SuperSignal West Pico PLUS Chemiluminescent Substrate [ThermoFisher]). #Weight marker (kDa) used: Protein Ladder BioLabs p7703s, 10 to 250 kDa. Blot images, were converted to grayscale with ImageJ software (v. 1.52a, National Institute of Health, USA). PC: Positive control; 0: Control group; 1, 2, 3 and 4 – lugol treatments (6 hours).