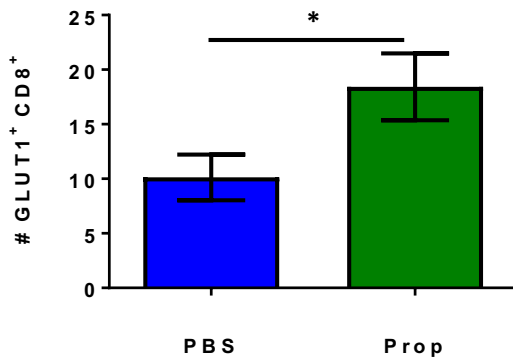
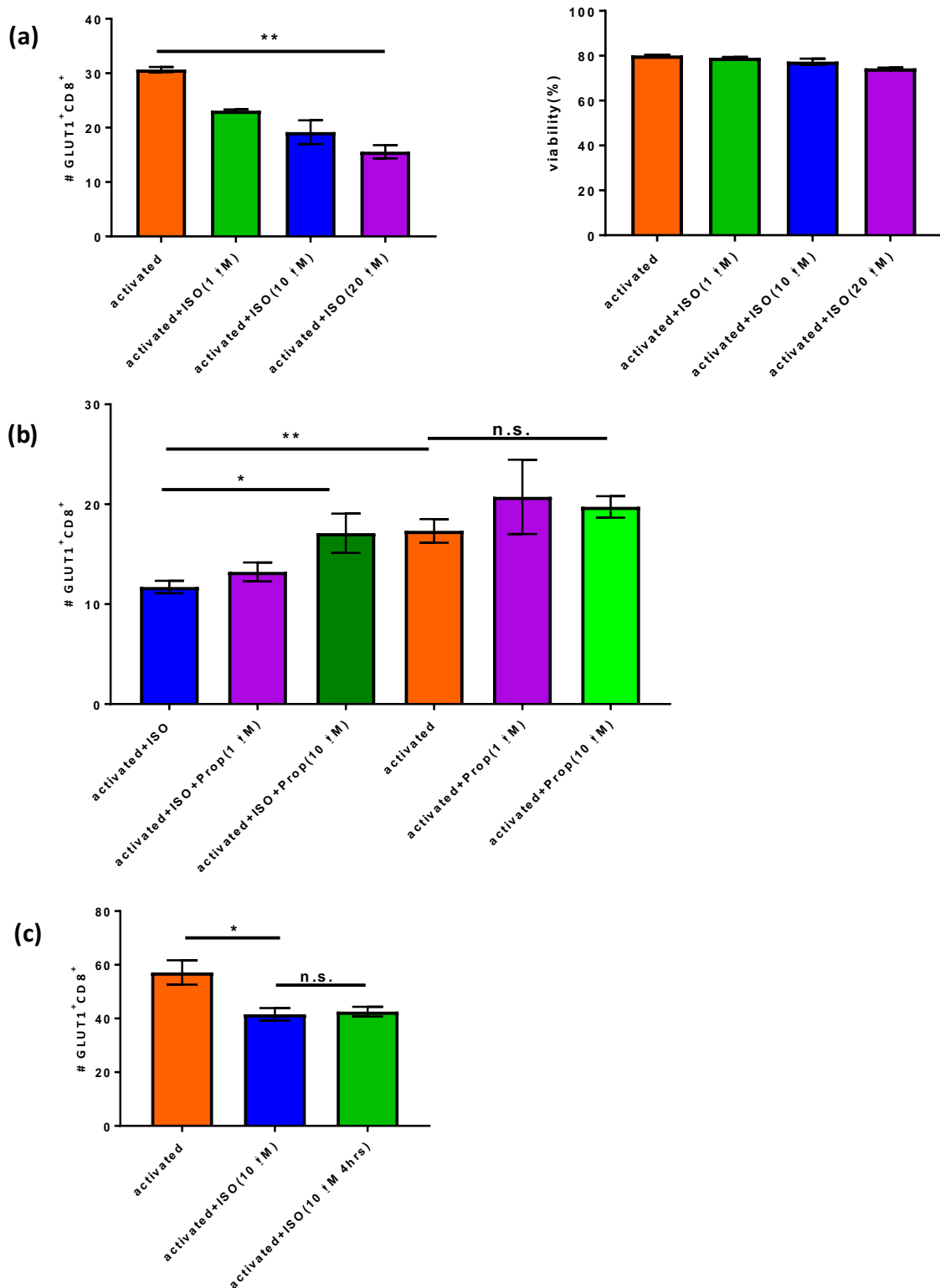


**Tumor infiltrating  
GLUT1<sup>+</sup> CD8<sup>+</sup> T cells**

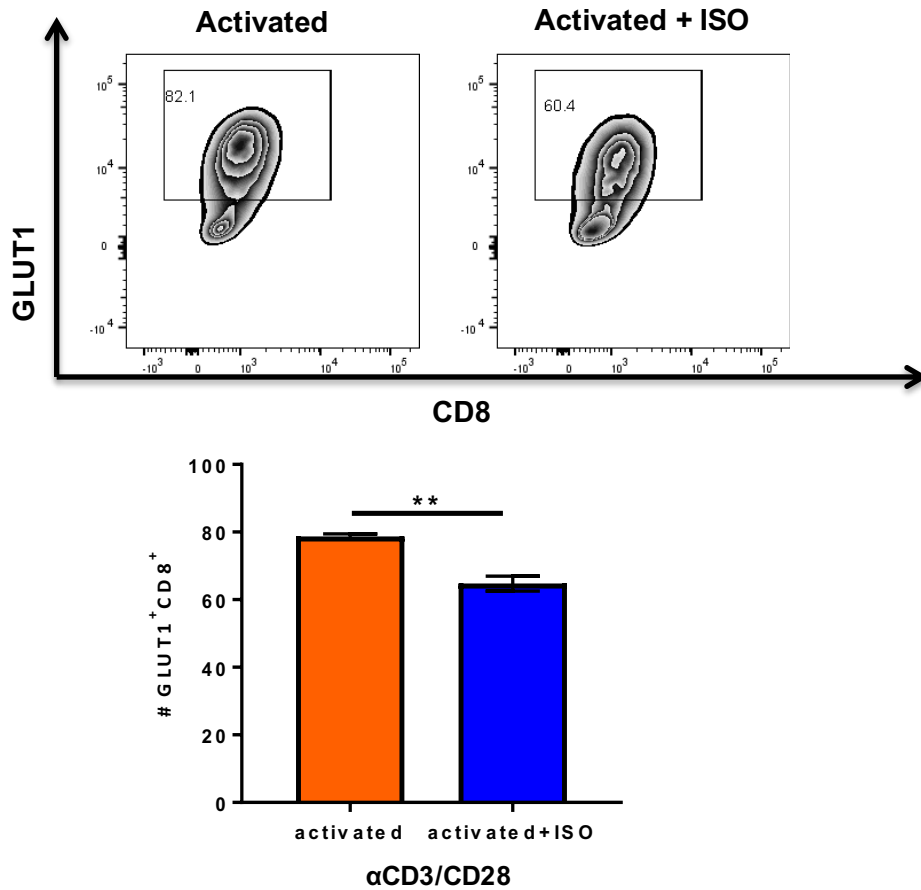


**Supplemental Figure 1. GLUT1 expression is increased in tumor infiltrating CD8<sup>+</sup> T-cells from mice treated with the  $\beta$ -adrenergic receptor antagonist propranolol**

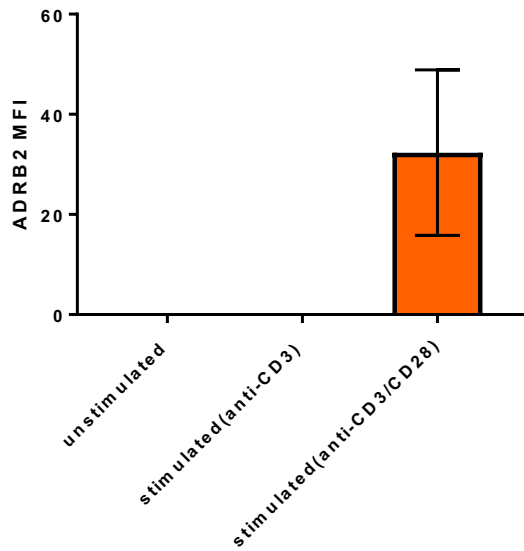
$2 \times 10^5$  B16-OVA cells were injected into C57BL/6 mice and tumor growth was monitored. Mice were treated with either PBS or the  $\beta$ -adrenergic receptor antagonist propranolol. At day 28, tumor infiltrating CD8<sup>+</sup> T-cells were isolated and GLUT1 expression quantified by flow cytometry. N=10; Data was analyzed using Student's t test, \*p<0.05



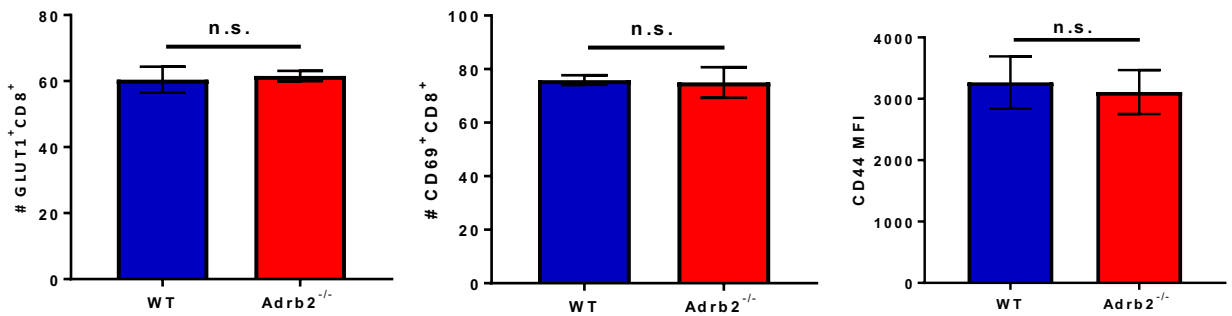
**Supplemental Figure 2.  $\beta$ -AR signaling inhibits GLUT1 up-regulation during T cell activation in a dose dependent manner and can be blocked by  $\beta$ -AR antagonist Propranolol** CD8<sup>+</sup>T-cells from BALB/c mice were isolated and purified from lymph node and spleen of non-tumor-bearing mice, and activated with anti-CD3/CD28 antibodies with or without isoproterenol. GLUT1 expression was tested by flow cytometry. GLUT1 expression in CD8<sup>+</sup>T-cells **(a)** different doses (1, 10, 20 $\mu$ M) of isoproterenol **(b)** isoproterenol +/-propranolol **(c)** CD8<sup>+</sup>T-cells were activated with or without isoproterenol. After 4 hours, isoproterenol was washed out. n=3-4; Data was analyzed using Student's t test, \*p<0.05, \*\*p<0.01



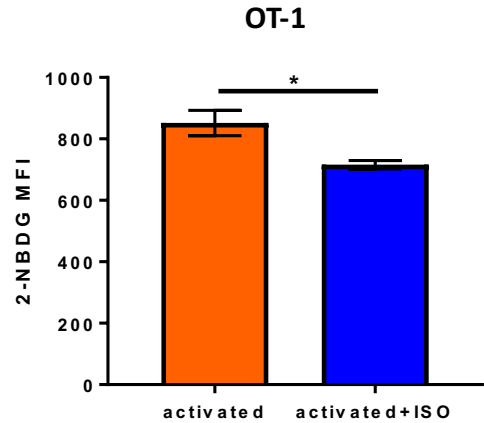
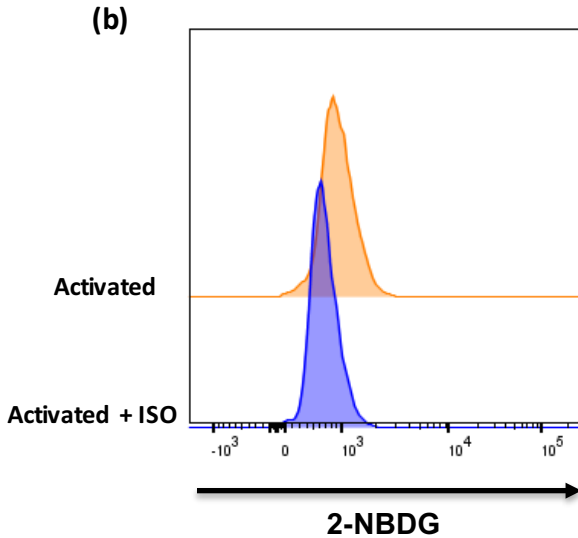
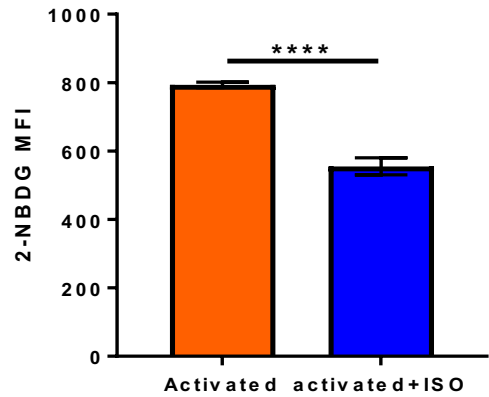
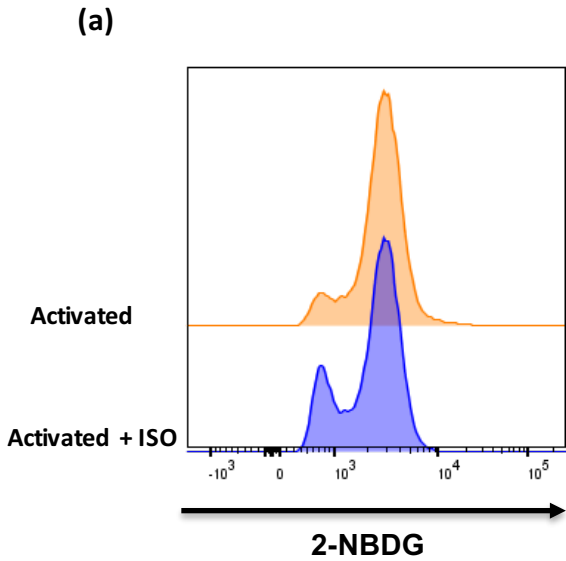
**Supplemental Figure 3.  $\beta$ -AR signaling inhibits GLUT1 up-regulation during T cell activation of CD8<sup>+</sup> T-cells from C57BL/6 mice** CD8<sup>+</sup> T-cells were isolated and activated in the presence or absence of ISO. Expression of GLUT-1 was tested at 48 hours after activation. n=6; Data was analyzed using Student's t test, \*\*p<0.01



**Supplemental Figure 4.  $\beta$ 2-adrenergic receptor (ADRB2) expression is increased after activation and is associated with CD28 co-stimulation** CD8<sup>+</sup> T-cells were isolated and activated with either anti-CD3 or anti-CD3/CD28 antibodies.  $\beta$ 2-adrenergic receptor was measured by flow cytometry. n=3; Data was analyzed using Student's t test.

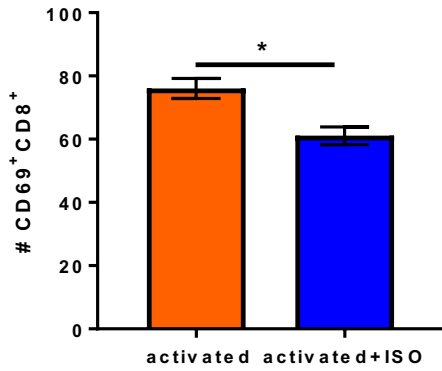


**Supplemental Figure 5. There is no difference between CD8<sup>+</sup> T-cells cell from wildtype and adrb2<sup>-/-</sup> mice** CD8<sup>+</sup> T-cells from BALB/c (wildtype) or adrb2<sup>-/-</sup> were isolated and purified from lymph node and spleen and activated with anti-CD3/CD28 antibodies Expression of the activation marker CD69, CD44 and GLUT1 were assessed at 24 hours. n=3.Data was analyzed using Student's t test.

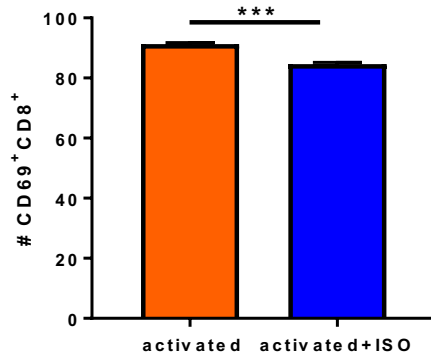


**Supplemental Figure 6.  $\beta$ -AR signaling inhibits glucose uptake during T cell activation** CD8<sup>+</sup> T-cells were isolated from (a) C57BL/6 mice or (b) OT-1 mice. n=4-6; Data was analyzed using Student's t test , \*\*\*\*p<0.0001.

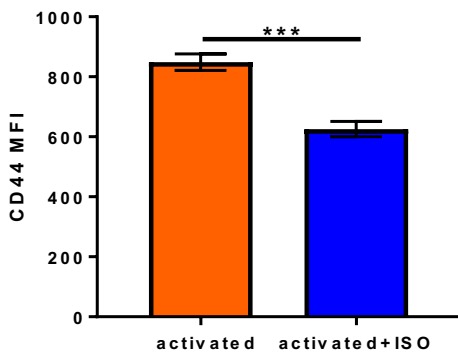
(a) 24 hours



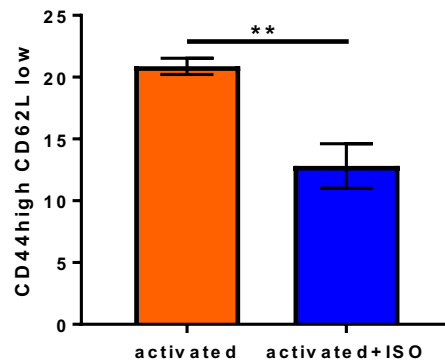
(b) 48 hours



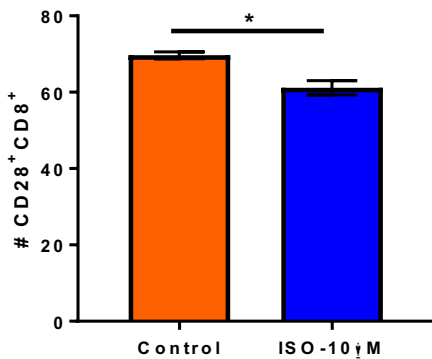
(c) 24 hours



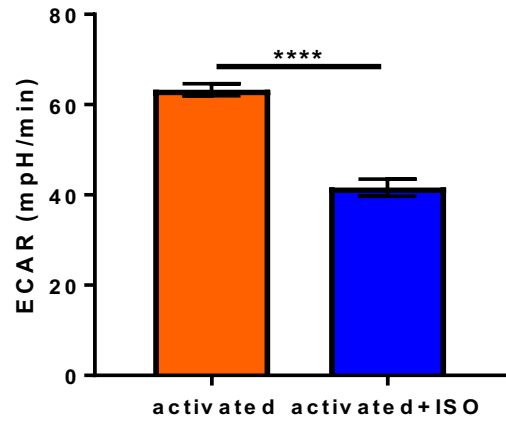
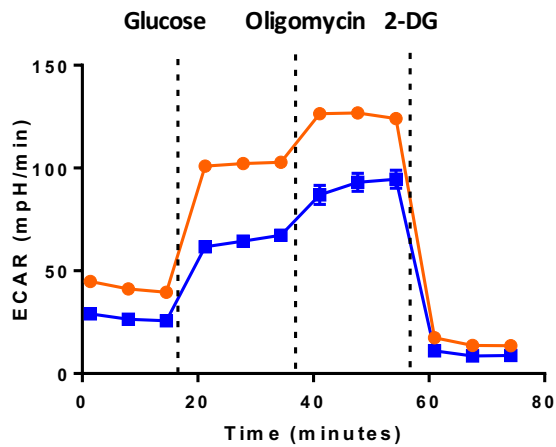
(d) 24 hours



(e) 48 hours

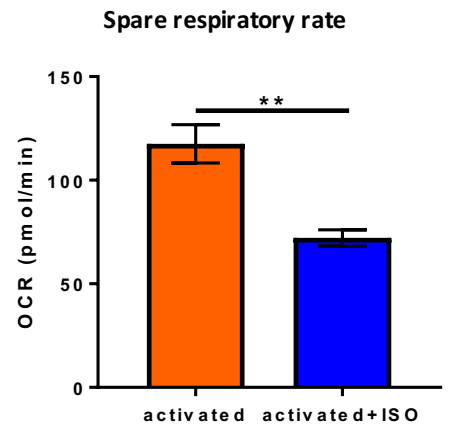
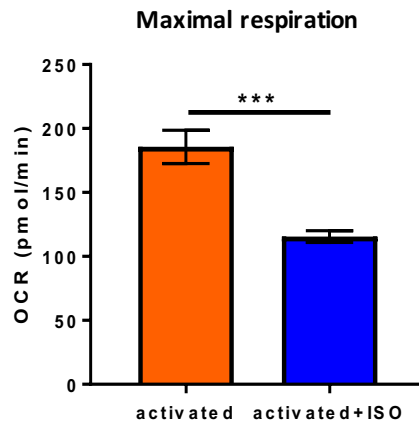
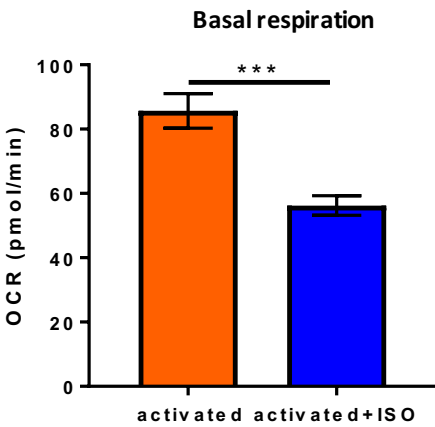
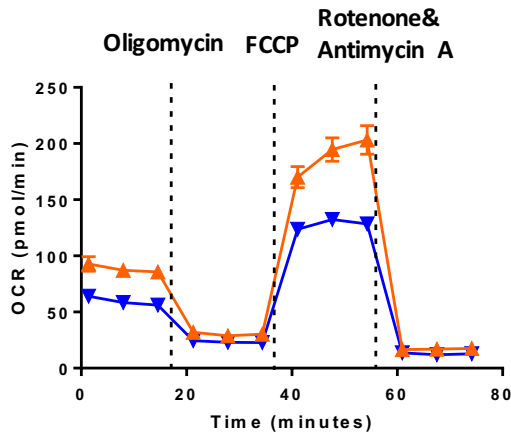


**Supplemental Figure 7.  $\beta$ -AR signaling inhibits T cell activation** CD8<sup>+</sup> T-cells from BALB/c mice were isolated and purified from lymph node and spleen and activated with anti-CD3/CD28 antibodies with or without isoproterenol. (a, b) Expression of the activation marker CD69 was assessed at 24 hours (a) and 48 hours (b) by flow cytometry. (c, d) Expression of the activation markers CD44 and CD62L were measured at 24 hours by flow cytometry. (e) Expression of the co-stimulatory molecule CD28 was measured at 48 hours by flow cytometry n=3-4. Data was analyzed using Student's t test, \*p<0.05, \*\*\*p<0.001.



**Supplemental Figure 8.  $\beta$ 2-AR signaling inhibits glycolysis during T cell activation** CD8<sup>+</sup> T-cells were isolated from C57BL/6 mice. n=6; Data was analyzed using Student's t test, \*\*\*\*p<0.0001





**Supplemental Figure 9.  $\beta$ -AR signaling inhibits mitochondrial respiration during T cell activation**

CD8<sup>+</sup> T-cells were isolated from C57BL/6 mice. n=6; Data was analyzed using Student's t test, \*\*p<0.01 \*\*\*p<0.001.