

2-Deoxyglucose Uptake by Soleus or Extensor Digitorum Longus in the Absence or Presence of Insulin in AEM Control, Flight and Hindlimb-suspended Animals

Group	2-Deoxyglucose Uptake (nmol/mg protein/15 min)		Effect (percent)
	No Insulin	With 1 mU Insulin/ml	
Soleus			
AEM Control	4.2 ± 0.2	6.5 ± 0.2	55 ± 3
Flight	4.0 ± 0.3	9.8 ± 0.6 <sup>a</sup>	145 ± 17 <sup>c</sup>
Suspended	4.1 ± 0.3	11.1 ± 0.6 <sup>a</sup>	170 ± 6 <sup>b</sup>
Extensor Digitorum Longus			
AEM Control	2.6 ± 0.1	3.9 ± 0.1	50 ± 3
Flight	2.0 ± 0.1 <sup>b</sup>	3.1 ± 0.1 <sup>b</sup>	55 ± 4
Suspended	2.3 ± 0.1	3.6 ± 0.2	57 ± 4

<sup>a</sup>p<0.001 versus AEM control by ANOVA with Bonferroni correction

<sup>b</sup>p<0.01 versus AEM control by ANOVA with Bonferroni correction

<sup>c</sup>p<0.05 versus AEM control by ANOVA with Bonferroni correction

AEM control animals were housed in the Animal Enclosure Module at the University of Arizona animal facility under the same temperature conditions, light-dark cycle, and duration as flight animals (Tischler et al J. Appl. Physiol. 74:2161, 1993). Flight animals were randomly assigned and loaded into their AEM at 2300 h EDT, September 11, 1991 (launch-21h). The flight measurements were initiated for each animal between 2h 8 min and 3h 22 min after landing. Suspended animals were selected from the same shipment as the AEM control group. Muscles were incubated with <sup>3</sup>H-deoxyglucose and <sup>14</sup>C-inulin (measurement of extracellular space for radioactive correction) in the absence or presence of insulin for 15 minutes by published procedures (Henriksen et al J. Biol. Chem. 261:10707, 1986; Tischler et al J. Appl. Physiol. 74:2161, 1993). Samples were prepared for protein analysis (Tischler et al J. Appl. Physiol. 74:2161, 1993) by the Lowry procedure (Lowry et al J. Biol. Chem. 193:265, 1951).