

TABLE I
*Free amino acids in diaphragm and in medium
after incubation*

Hemidiaphragms of eight fasted rats were preincubated for 30 min and then transferred to fresh medium for a 3-hour incubation. Control tissues were incubated in KRB buffer; others in KRB supplemented with glucose, 11 mM, and insulin, 0.1 unit per ml. At the end of the incubation, proteins were removed from muscle homogenates and medium with trichloroacetic acid. The acid-soluble fractions from eight muscles were combined, as were those from the media, and amino acid analyses performed. Net change is the difference between the amino acid content of the muscle and medium of tissues treated with insulin and glucose and the control tissues.

Amino acid	In muscle		Released into medium		Net change
	Control	+ Insulin + glucose	Control	+ Insulin + glucose	
	<i>nmol/mg muscle</i>				
Alanine.....	0.08	0.26	1.39	2.34	+1.13
Arginine.....	Trace	Trace	1.21	0.75	-0.46
Aspartic acid.....	0.36	0.20	0.83	0.58	-0.41
Glutamic acid.....	0.63	0.51	1.15	0.79	-0.48
Glycine.....	0.25	0.24	2.86	1.77	-1.10
Histidine.....	0.05	0.06	0.47	0.56	-0.10
Isoleucine.....	0.03	0.01	0.72	0.38	-0.36
Leucine.....	0.04	0.01	1.45	0.84	-0.64
Lysine.....	0.20	0.13	2.70	1.77	-1.00
Phenylalanine.....	0.04	0.01	1.26	0.75	-0.54
Proline.....	0.15	0.09	1.12	0.69	-0.49
Serine.....	0.37	0.30	6.58	3.65	-3.00
Threonine.....	0.11	0.07	2.57	1.19	-1.42
Tyrosine.....	0.04	0.02	1.06	0.71	-0.37
Valine.....	0.04	Trace	1.21	0.58	-0.67
Trace amino acids....	0.15	0.13	1.34	0.21	-1.15
Total amino acids....	2.53	2.03	28.42	17.56	-11.36
Taurine.....	2.07	1.89	2.37	2.25	-0.30