

Supplementary Material

Supplementary Table S1. Hindlimb skeletal muscle mass.

	Normal			AA (-)			AA (+)			AA (-)-Exc			AA (+)-Exc		
Soleus muscle mass (g)	0.081	±	0.008	0.057	±	0.005	***, a	0.060	±	0.006	***, ab	0.065	±	0.005	***, b
EDL muscle mass (g)	0.091	±	0.005	0.080	±	0.007	***	0.085	±	0.004	*	0.085	±	0.004	*
Plantaris muscle mass (g)	0.191	±	0.011	0.149	±	0.005	***	0.155	±	0.009	***	0.155	±	0.011	***
TA muscle mass (g)	0.344	±	0.021	0.288	±	0.010	***, a	0.302	±	0.018	***, ab	0.295	±	0.018	***, ab

EDL: extensor digitorum longus; TA: tibialis anterior.

Data are means ± SDs (n=9-10 per group). * $p < 0.05$, *** $p < 0.001$, compared to Normal group by Dunnett type multiple comparison tests among all groups. Different letters indicate significant differences among the postoperative sarcopenic rats in AA (-), AA (+), AA (-)-Exc, and AA (+)-Exc groups by Tukey type multiple comparison tests ($p < 0.05$).

Supplementary Table S2. Individual plasma amino acid concentrations (nmol/mL).

	Normal			AA (-)			AA (+)			AA (-)-Exc			AA (+)-Exc						
Isoleucine	105.9	±	21.1	67.9	±	7.0	***, a	100.1	±	7.6	b	64.4	±	7.4	***, a	95.1	±	8.2	b
Threonine	281.3	±	41.7	267.7	±	24.4	a	336.5	±	26.8	***, b	264.6	±	19.3	a	337.8	±	32.1	***, b
Tryptophan	96.6	±	10.0	81.5	±	7.1	***, a	108.6	±	3.8	**, b	78.9	±	5.2	***, a	110.7	±	7.1	***, b
Valine	252.5	±	58.7	148.9	±	11.1	***, a	239.5	±	18.3	b	140.5	±	14.0	***, a	223.2	±	16.2	b
Histidine	79.4	±	8.6	81.6	±	4.2	a	83.4	±	5.2	a	72.2	±	3.9	b	78.6	±	3.3	a
Phenylalanine	55.1	±	2.9	60.3	±	2.7	ac	72.0	±	4.3	***, b	59.2	±	10.0	a	68.5	±	3.2	***, bc
Methionine	43.9	±	3.9	50.5	±	4.4	a	62.7	±	3.3	***, b	50.0	±	8.4	a	58.9	±	2.7	***, ab
Lysine	527.2	±	38.5	483.9	±	31.5	*, a	568.4	±	33.8	*, b	468.0	±	34.9	**, a	539.5	±	31.8	b
Leucine	166.2	±	25.4	121.9	±	8.3	*, a	186.1	±	15.5	b	114.0	±	11.6	**, a	171.1	±	14.4	b
Asparagine	80.1	±	12.4	62.9	±	5.8	a	38.6	±	2.6	***, b	57.6	±	4.7	c	37.1	±	2.9	***, b
Aspartic acid	11.9	±	4.8	11.0	±	1.2	a	7.1	±	0.7	**, b	11.1	±	1.8	a	7.2	±	0.6	**, b
Alanine	762.5	±	118.2	714.3	±	65.7	a	545.8	±	48.9	***, b	629.7	±	74.0	c	493.1	±	44.8	***, b
Arginine	131.6	±	14.1	157.2	±	17.5	*, a	242.8	±	24.3	***, b	145.0	±	11.6	a	227.9	±	18.7	***, b
Glycine	153.3	±	24.5	234.3	±	24.2	***	220.6	±	10.8	***	235.5	±	27.3	***	217.2	±	17.2	***
Glutamine	632.1	±	40.0	870.0	±	64.2	*, a	520.7	±	25.3	b	808.7	±	80.6	a	511.1	±	35.3	*, b
Glutamic acid	82.3	±	11.1	83.8	±	9.5	a	59.9	±	3.9	***, b	83.6	±	7.9	a	62.0	±	6.5	***, b
Cystine	32.5	±	4.1	30.8	±	4.4		35.1	±	3.3		31.9	±	5.8		33.1	±	4.0	
Serine	297.4	±	24.3	422.5	±	32.3	**, a	290.3	±	14.1	b	391.7	±	43.3	*, a	282.2	±	19.7	b
Tyrosine	112.3	±	23.5	89.6	±	10.8	a	80.9	±	7.2	**, ab	79.8	±	10.3	**, ab	70.7	±	6.6	***, b
Proline	284.1	±	97.3	149.9	±	12.7	**, a	163.9	±	9.7	b	145.6	±	10.9	***, a	155.6	±	9.8	*, ab

Data are means \pm SDs (n=9-10 per group). * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$, compared to Normal group by Dunnett type multiple comparison tests among all groups. Different letters indicate significant differences among the postoperative sarcopenic rats in AA (-), AA (+), AA (-)-Exc, and AA (+)-Exc groups by Tukey type multiple comparison tests ($p < 0.05$).