

SUPPLEMENTAL TABLE 1Concentrations of amino acids in maternal plasma after a single iv bolus injection of L-arginine-HCl to late pregnant ewes¹

Amino acid	Time after bolus injection (min)								SEM	<i>P</i> value
	0	5	15	30	60	120	180	240		
	$\mu\text{mol/L}$									
Aspartate	12 ^a	10 ^{ab}	8.4 ^{bc}	9.9 ^{ab}	7.6 ^{bc}	8.1 ^{bc}	6.0 ^c	7.3 ^{bc}	1.8	0.006
Glutamate	73 ^{ab}	69 ^{ab}	70 ^{ab}	78 ^a	69 ^{ab}	78 ^a	64 ^b	62 ^b	11	0.047
Asparagine	22 ^a	23 ^a	22 ^a	24 ^a	22 ^a	22 ^a	17 ^b	18 ^b	3	0.005
Serine	82	78	71	80	65	69	59	66	14	0.081
Glutamine	179 ^b	205 ^{ab}	206 ^{ab}	224 ^a	203 ^{ab}	209 ^{ab}	179 ^b	184 ^b	38	0.023
Histidine	31 ^b	38 ^a	35 ^{ab}	35 ^{ab}	33 ^{ab}	33 ^{ab}	29 ^b	29 ^b	4	0.040
Glycine	346	406	381	414	385	415	381	364	55	0.398
Threonine	67 ^{ab}	70 ^a	68 ^a	75 ^a	66 ^{ab}	69 ^a	57 ^c	58 ^{bc}	10	0.008
β -Alanine	22	22	22	24	22	24	21	22	6	0.432
Taurine	62 ^{bc}	79 ^a	74 ^{ab}	76 ^{ab}	64 ^{bc}	67 ^{ab}	52 ^c	56 ^{bc}	9	0.002
Alanine	112 ^b	117 ^{ab}	113 ^b	126 ^a	112 ^b	118 ^{ab}	99 ^c	98 ^c	15	0.001
Tyrosine	43	47	45	50	45	47	40	42	6	0.087
Tryptophan	31	31	29	32	29	31	27	29	5	0.627
Methionine	18 ^c	21 ^{ab}	20 ^{abc}	23 ^a	21 ^{ab}	21 ^{ab}	18 ^c	19 ^{bc}	4	0.020
Valine	92	83	63	89	81	84	70	72	13	0.251
Phenylalanine	42	52	54	59	51	54	47	51	18	0.188
Isoleucine	48	49	48	54	47	50	42	44	5	0.117
Leucine	89 ^{ab}	92 ^{ab}	89 ^{ab}	97 ^a	87 ^{abc}	89 ^{ab}	75 ^c	81 ^{bc}	11	0.050
Lysine	69 ^{cd}	97 ^a	91 ^a	95 ^a	81 ^b	77 ^{bc}	63 ^d	69 ^{cd}	10	0.001
Cysteine ²	165	167	165	166	165	165	166	166	9	0.995
Proline	96 ^c	109 ^d	118 ^c	130 ^b	147 ^a	126 ^{bc}	109 ^d	99 ^e	4	0.001
Total amino acids	1701 ^{bc}	1864 ^{ab}	1792 ^{abc}	1960 ^a	1804 ^{abc}	1856 ^{ab}	1620 ^c	1634 ^c	169	0.020

¹ Values are means with pooled SEM, n=6. Means in a row with superscripts without a common letter differ, *P* < 0.05.² Cysteine + ½ cystine.

SUPPLEMENTAL TABLE 2Concentrations of amino acids in maternal plasma after a single iv bolus injection of L-citrulline to late pregnant ewes¹

Amino acid	Time after bolus injection (min)								SEM	P value
	0	5	15	30	60	120	180	240		
	µmol/L									
Aspartate	9.6 ^a	8.6 ^{abc}	8.8 ^{ab}	7.6 ^{bc}	7.6 ^{bc}	7.4 ^{bc}	7.0 ^c	7.3 ^{bc}	1	0.040
Glutamate	69	72	76	69	70	68	71	69	8	0.750
Asparagine	24	25	31	24	24	22	23	23	3	0.258
Serine	70	66	68	64	63	64	64	64	10	0.543
Glutamine	203	234	244	228	222	220	223	224	39	0.432
Histidine	35	41	42	38	36	35	37	36	5	0.250
Glycine	326	380	399	375	358	369	374	385	52	0.309
Threonine	69	71	75	70	69	67	72	73	10	0.940
β-Alanine	21	22	22	21	21	21	21	21	5	0.384
Taurine	69	79	83	78	80	71	65	67	8	0.286
Alanine	106	113	117	107	106	99	102	99	15	0.226
Tyrosine	44	53	55	52	53	50	53	53	6	0.232
Tryptophan	31	35	36	34	33	33	35	34	5	0.176
Methionine	19	20	20	19	19	18	19	19	2	0.885
Valine	100	117	120	110	112	105	112	112	13	0.431
Phenylalanine	45	42	43	40	40	38	40	40	7	0.937
Isoleucine	53	60	64	54	43	53	54	54	6	0.344
Leucine	93	102	104	95	94	88	91	93	11	0.554
Lysine	78	88	93	88	88	87	90	90	10	0.633
Cysteine ²	168	165	164	164	172	167	166	162	9	0.193
Proline	93 ^d	93 ^d	96 ^{cd}	110 ^b	121 ^a	100 ^c	97 ^{cd}	93 ^d	4	0.001
Total amino acids	1725	1886	1959	1848	1833	1782	1806	1818	149	0.590

¹ Values are means with pooled SEM, n=6. Means in a row with superscripts without a common letter differ, $P < 0.05$.² Cysteine + ½ cystine.

SUPPLEMENTAL TABLE 3

Concentrations of amino acids in fetal plasma after a single iv bolus injection of L-arginine-HCl to late pregnant ewes

Amino acid	Time after bolus injection (min)								SEM	P value
	0	5	15	30	60	120	180	240		
	$\mu\text{mol/L}$									
Aspartate	4.7	5.0	5.8	5.8	4.2	4.6	3.6	4.3	0.7	0.169
Glutamate	34	29	32	32	29	28	28	31	3	0.418
Asparagine	24	22	19	20	21	21	22	23	2	0.267
Serine	292	336	260	270	277	292	303	309	58	0.536
Glutamine	210	191	188	183	188	180	217	189	17	0.683
Histidine	30	26	25	26	23	26	29	32	3	0.082
Glycine	278	267	300	288	260	270	289	317	29	0.082
Threonine	145	155	124	154	128	134	133	139	25	0.703
B-Alanine	151	152	138	142	143	148	147	155	46	0.523
Taurine	94	103	79	86	90	89	89	103	17	0.508
Alanine	154	142	132	137	140	144	146	153	19	0.202
Tyrosine	61	59	55	57	55	55	56	59	12	0.689
Tryptophan	76	68	62	62	71	70	71	73	28	0.786
Methionine	24	23	21	21	22	23	23	24	3	0.316
Valine	108	103	94	98	101	103	102	130	21	0.262
Phenylalanine	73	67	67	68	67	68	68	57	23	0.891
Isoleucine	32	30	29	29	30	32	28	33	5	0.583
Leucine	70 ^a	63 ^{ab}	61 ^b	61 ^b	62 ^b	61 ^b	63 ^{ab}	71 ^a	8	0.040
Lysine	30	24	24	25	26	29	28	30	5	0.326
Cysteine ²	176	171	173	174	175	174	171	176	9	0.748
Proline	97 ^d	99 ^{dc}	106 ^c	110 ^{bc}	122 ^a	115 ^b	105 ^{cc}	99 ^{dc}	5	0.001
Total amino acids	2108	2134	1990	2028	2048	2030	2121	2135	170	0.434

¹ Values are means with pooled SEM, n=6. Means in a row with superscripts without a common letter differ, $P < 0.05$.² Cysteine + ½ cystine.

SUPPLEMENTAL TABLE 4Concentrations of amino acids in fetal plasma after a single iv bolus injection of L-citrulline to late pregnant ewes¹

Amino acid	Time after bolus injection (min)								SEM	P value
	0	5	15	30	60	120	180	240		
	μmol/L									
Aspartate	3.8	4.6	4.4	3.7	3.4	3.6	3.9	3.8	0.4	0.325
Glutamate	25	24	23	25	23	23	24	26	2	0.756
Asparagine	22	21	20	22	21	21	23	23	3	0.801
Serine	260	254	243	266	261	249	270	273	42	0.320
Glutamine	182	170	169	175	163	157	168	173	16	0.283
Histidine	26	26	24	25	25	24	26	29	2	0.367
Glycine	231	242	228	239	233	220	233	250	28	0.475
Threonine	116	106	100	117	109	106	118	116	9	0.302
β-Alanine	92	85	87	96	84	84	91	96	15	0.356
Taurine	113	108	110	112	112	111	118	119	28	0.615
Alanine	135	129	125	145	138	134	149	159	21	0.216
Tyrosine	56	52	50	57	56	54	59	63	12	0.291
Tryptophan	132	129	123	146	147	131	145	122	64	0.938
Methionine	17	16	16	16	17	16	18	18	1	0.309
Valine	121	109	107	115	110	107	118	112	8	0.653
Phenylalanine	46	44	43	46	47	44	49	50	4	0.295
Isoleucine	33	29	29	29	31	31	34	30	3	0.699
Leucine	61	56	58	61	59	57	63	62	4	0.601
Lysine	31 ^{bcd}	29 ^{cd}	28 ^d	33 ^{abc}	31 ^{bcd}	33 ^{abc}	35 ^{ab}	37 ^a	5	0.021
Cysteine ²	179	176	174	169	175	175	173	170	10	0.280
Proline	103 ^d	108 ^{cd}	110 ^c	119 ^b	128 ^a	123 ^{ab}	121 ^b	120 ^b	10	0.001
Total amino acids	1984	1981	1970	2027	1973	1983	2039	2050	167	0.510

¹ Values are means with pooled SEM, n=6. Means in a row with superscripts without a common letter differ, *P* < 0.05.² Cysteine + ½ cystine.