



URINE METABOLIC SCREEN REFERENCE INTERVALS (RI)

Analyte	RI
Glucose	negative
Ketones	negative

Creatine Panel

Analyte (concentration)	<4y		≥4y to ≤13y		>13y		unspecified	
	RI limit		RI limit		RI limit		RI limit	
	lower	upper	lower	upper	lower	upper	lower	upper
Creatinine	532	8480	967	15850	1197	28165	414	23465
Creatine	17	4362	188	2454	11	1164	10	3690
Guanidinoacetic Acid	40	719	81	844	50	1001	49	856

Analyte/creatinine ratio	<4y		≥4y to ≤13y		>13y		unspecified	
	RI limit		RI limit		RI limit		RI limit	
	lower	upper	lower	upper	lower	upper	lower	upper
Creatine /Cr	20	1257	23	879	9	537	9	1252
Guanidinoacetic Acid /Cr	27	186	34	156	9	81	9	181

Crystaluria

Analyte (concentration)	<2y		≥2y to ≤18y		>18y		unspecified age	
	RI limit		RI limit		RI limit		RI limit	
	lower	upper	lower	upper	lower	upper	lower	upper
Cystine	4	82	5	117	7	182	6	134
4-hydroxyglutamate	0.0	6.3	0.0	6.3	0.0	1.9	0.0	6.0
Orotic acid	1	9	1	13	1	17	1	14
Uric acid	283	2583	177	3511	177	3511	200	3391
Xanthine	5	119	5	119	13	62	5	116

Amino acids	<2y		≥2y to ≤18y		>18y		unspecified	
	RI limit mmol/mol creatinine		RI limit mmol/mol creatinine		RI limit mmol/mol creatinine		RI limit mmol/mol creatinine	
	lower	upper	lower	upper	lower	upper	lower	upper
Analyte/creatinine ratio								
1-methyl-histidine /Cr	27	131	22	105	18	62	20	99
3-methyl-histidine /Cr	3	197	0	289	1	262	0	266
Alanine /Cr	26	173	15	113	9	68	12	132
Alloisoleucine /Cr	0	1	0	0	0	0	0	0
Alpha-aminoadipic acid /Cr	13	118	4	45	2	12	2	62
Alpha-aminobutyric acid /Cr	1	12	0	9	0	6	0	10
Anserine /Cr	0	136	0	83	0	29	0	84
Arginine /Cr	0	15	0	11	0	6	0	13
Asparagine /Cr	14	87	6	51	3	38	4	53
Aspartic acid /Cr	0	13	0	8	0	7	0	10
Beta-alanine /Cr	0	29	0	21	0	17	0	20
Beta-aminoisobutyric acid /Cr	12	212	4	152	2	117	2	158
Carnosine /Cr	2	140	1	54	0	15	0	79
Citrulline /Cr	0	15	0	7	0	4	0	8
Cystathionine /Cr	1	21	0	9	0	8	0	12
Cystine /Cr	4	28	2	16	2	22	2	21
Ethanolamine /Cr	44	223	27	131	17	82	18	141
Gamma-aminobutyric acid /Cr	0	17	0	15	0	9	0	15
Glutamic acid /Cr	4	44	2	22	2	16	2	28
Glutamine /Cr	64	291	31	203	13	101	17	232
Glycine /Cr	72	761	68	584	26	437	40	558
Histidine /Cr	68	442	27	317	15	181	16	328
Homocystine /Cr	0	1	0	0	0	0	0	0
Hydroxylysine /Cr	2	23	1	11	0	7	0	14
Hydroxyproline /Cr	0	252	0	7	0	6	0	66
Isoleucine /Cr	0	10	0	5	0	3	0	6
Leucine /Cr	2	20	2	11	0	7	0	14
Lysine /Cr	7	83	4	61	2	67	2	69
Methionine /Cr	1	10	1	6	0	5	0	7
Ornithine /Cr	2	12	1	10	0	9	0	10
Phenylalanine /Cr	5	39	3	21	2	13	2	24
Phosphoethanolamine /Cr	0	39	0	20	0	8	0	26
Phosphoserine /Cr	0	9	0	11	0	6	0	10
Proline /Cr	1	138	0	28	0	12	0	51
Sarcosine /Cr	0	19	0	18	0	21	0	20
Serine /Cr	33	300	20	124	3	67	7	173
Taurine /Cr	14	758	7	355	3	219	4	439
Threonine /Cr	16	100	8	59	2	44	4	64
Tryptophan /Cr	4	34	3	22	2	12	2	24
Tyrosine /Cr	6	58	4	42	1	25	1	42
Valine /Cr	4	29	3	16	1	10	1	21

Purines

Analyte/creatinine ratio	<2y		≥2y to ≤18y		>18y		unspecified age	
	RI limit mmol/mol creatinine		RI limit mmol/mol creatinine		RI limit mmol/mol creatinine		RI limit mmol/mol creatinine	
	lower	upper	lower	upper	lower	upper	lower	upper
Adenine /Cr	0.2	10.1	0.0	9.9	0.0	3.2	0.0	10.2
Adenosine /Cr	0.0	1.2	0.0	0.7	0.0	0.3	0.0	0.7
Succinyladenosine /Cr	2.4	6.1	0.4	3.0	0.4	1.5	0.4	4.8
Deoxyadenosine /Cr	0.00	0.00	0.00	0.02	0.00	0.01	0.00	0.02
Deoxyguanosine /Cr	0.00	0.42	0.00	0.00	0.00	0.02	0.00	0.29
Deoxyinosine /Cr	0.00	0.40	0.00	0.01	0.00	0.00	0.00	0.06
Guanine /Cr	0.1	5.9	0.0	4.6	0.0	0.4	0.0	6.0
Guanosine /Cr	0.04	2.08	0.00	0.45	0.00	0.20	0.00	1.79
Hypoxanthine /Cr	3	39	3	39	1	13	2	38
Inosine /Cr	0.3	5.2	0.2	2.0	0.0	1.1	0.0	4.6
Uric Acid /Cr	166	1222	41	994	93	313	56	1179
Xanthine /Cr	11	42	2	34	2	12	2	35

Pyrimidines

Analyte/creatinine ratio	<2y		≥2y to ≤18y		>18y		unspecified age	
	RI limit mmol/mol creatinine		RI limit mmol/mol creatinine		RI limit mmol/mol creatinine		RI limit mmol/mol creatinine	
	lower	upper	lower	upper	lower	upper	lower	upper
5-hydroxymethyl-uracil /Cr	0.00	0.25	0.00	0.02	0.00	0.16	0.00	0.16
Deoxyuridine /Cr	0.00	0.30	0.00	0.00	0.00	0.00	0.00	0.00
Dihydrothymine /Cr	0.3	6.8	0.0	1.7	0.0	0.4	0.0	5.7
Dihydrouracil /Cr	0	18	0	6	0	2	0	15
N-carbamoyl-beta-alanine /Cr	6	36	2	23	2	11	2	31
Orotic acid /Cr	1.0	3.0	0.3	2.9	0.3	1.4	0.3	2.9
Orotidine /Cr	1.1	5.1	0.2	2.4	0.4	1.7	0.3	4.5
Pseudouridine /Cr	46	197	16	108	17	31	16	170
Thymidine /Cr	0.0	1.0	0.0	0.1	0.0	0.0	0.0	0.3
Thymine /Cr	0.3	1.1	0.1	1.1	0.1	0.2	0.1	1.2
Uracil /Cr	1	32	1	32	1	7	1	31
Uridine /Cr	0.5	3.5	0.0	2.3	0.0	1.0	0.0	3.4