

TABLE 1—Système International (SI) units for plasma, serum, or blood concentrations

Measurement	Conventional unit	Conversion factor	SI unit	Significant digits	Suggested minimum increments
Acetoacetate	mg/dl	97.95	μmol/L	XXO	10 μmol/L
Acetone	mg/dl	172.2	μmol/L	XXO	10 μmol/L
Adrenocorticotropin	pg/ml	0.2202	pmol/L	XX	1 pmol/L
Aldosterone	ng/dl	27.74	pmol/L	XXO	10 pmol/L
Amino acids					
Alanine	mg/dl	112.2	μmol/L	XXX	5 μmol/L
α-aminobutyric acid	mg/dl	96.97	kmol/L	XXX	5 μmol/L
Arginine	mg/dl	57.40	μmol/L	XXX	5 μmol/L
Asparagine	mg/dl	75.69	μmol/L	XXX	5 μmol/L
Aspartic acid	mg/dl	75.13	μmol/L	XXX	5 μmol/L
Citrulline	mg/dl	57.08	μmol/L	XXX	5 μmol/L
Cysteine	mg/dl	41.61	μmol/L	XXX	5 μmol/L
Glutamic acid	mg/dl	67.97	μmol/L	XXX	5 μmol/L
Glutamine	mg/dl	68.42	μmol/L	XXX	5 μmol/L
Glycine	mg/dl	133.2	μmol/L	XXX	5 μmol/L
Histidine	mg/dl	64.45	μmol/L	XXX	5 μmol/L
Hydroxyproline	mg/dl	76.26	μmol/L	XXX	5 μmol/L
Isoleucine	mg/dl	76.24	μmol/L	XXX	5 μmol/L
Leucine	mg/dl	76.24	μmol/L	XXX	5 μmol/L
Lysine	mg/dl	68.40	μmol/L	XXX	5 μmol/L
Methionine	mg/dl	67.02	μmol/L	XXX	5 μmol/L
Ornithine	mg/dl	75.67	μmol/L	XXX	5 μmol/L
Phenylalanine	mg/dl	60.54	μmol/L	XXX	5 μmol/L
Proline	mg/dl	86.86	μmol/L	XXX	5 μmol/L
Serine	mg/dl	95.16	μmol/L	XXX	5 μmol/L
Taurine	mg/dl	79.91	μmol/L	XXX	5 μmol/L
Threonine	mg/dl	83.95	μmol/L	XXX	5 μmol/L
Tryptophan	mg/dl	48.97	μmol/L	XXX	5 μmol/L
Tyrosine	mg/dl	55.19	μmol/L	XXX	5 μmol/L
Valine	mg/dl	85.36	μmol/L	XXX	5 μmol/L
Amino acid nitrogen	mg/dl	0.7139	mmol/L	X.X	0.1 mmol/L
Amylase	U/L	1.0	U/L	XXO	10 U/L
Androstenedione	μg/L	3.492	nmol/L	XX.X	0.5 nmol/L
Calcitonin	pg/ml	1.0	ng/L	XXO	10 ng/L
Calcium	mg/dl	0.2495	mmol/L	X.XX	0.02 mmol/L
Calcium ion	meq/L	0.500	mmol/L	X.XX	0.01 mmol/L
Carbon dioxide content	meq/L	1.00	nmol/L	XX	1 mmol/L
Cholesterol	mg/dl	0.02586	mmol/L	X.XX	0.05 mmol/L
Citrate (as citric acid)	mg/dl	52.05	μmol/L	XXX	5 μmol/L
Cortisol	μg/dl	27.59	nmol/L	XXO	10 nmol/L
C-peptide	ng/mL	0.331	nmol/L	X.XX	10 nmol/L
Creatinine	mg/dl	88.40	μmol/L	XXO	10 μmol/L
Creatinine clearance	ml/min	0.01667	ml/s	X.XX	0.02 ml/s
cyclic AMP	μg/L	3.038	nmol/L	XXX	1 nmol/L
cyclic GMP	μg/L	2.897	nmol/L	XX.X	0.1 nmol/L
Dehydroepiandrosterone	μg/L	3.467	nmol/L	XX.X	0.2 nmol/L
Dehydroepiandrosterone sulfate	ng/ml	0.002714	μmol/L	XX.X	0.1 μmol/L
11-Deoxycortisol	μg/dl	28.86	nmol/L	XXO	10 nmol/L
Epinephrine	pg/ml	5.458	pmol/L	XXO	10 pmol/L
Estradiol	pg/ml	3.671	pmol/L	XXX	1 pmol/L
Estrone	pg/ml	3.699	pmol/L	XXX	5 pmol/L
Fatty acids, nonesterified	mg/dl	0.01	g/L	X.XX	0.01 g/L
Follicle-stimulating hormone	mIU/ml	1.00	IU/L	XX	1 IU/L
Fructose	mg/dl	0.05551	mmol/L	X.XX	0.1 mmol/L
Galactose	mg/dl	0.05551	mmol/L	X.XX	0.1 mmol/L
Gases					
PO <sub>2</sub>	mmHg	0.1333	kPa	XX.X	0.1 kPa
PCO <sub>2</sub>	mmHg	0.1333	kPa	X.X	0.1 kPa
Gastrin	pg/ml	1.0	ng/L	XXO	10 ng/L
Gastroinhibitory polypeptide	pg/ml	0.201	pmol/L	XXO	10 pmol/L
Glucagon	pg/ml	1.0	ng/L	XXO	10 ng/L
Glucose	mg/dl	0.05551	mmol/L	XX.X	0.1 mmol/L
Glycerol, free	mg/dl	0.1086	mmol/L	X.XX	0.01 mmol/L
Growth hormone	ng/ml	1.0	μg/L	XX.X	0.5 μg/L
β-Hydroxybutyrate (as β-hydroxybutyric acid)	mg/dl	96.05	μmol/L	XXO	10 μmol/L
17α-Hydroxyprogesterone	μg/L	3.026	nmol/L	XX.X	0.5 nmol/L

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Insulin	μU/ml	6.0	pmol/L	XXX	5 pmol/L
Lactate (as lactic acid)	mEq/L	1.0	mmol/L	X.X	0.1 mmol/L
Lipase	U/L	1.0	U/L	XXX	1 U/L
Lipoproteins					
LDL (as cholesterol)	mg/dl	0.02586	mmol/L	X.XX	0.05 mmol/L
HDL (as cholesterol)	mg/dl	0.02586	mmol/L	XXX	0.05 mmol/L
Luteinizing hormone	mIU/ml	1.0	IU/L	X.XX	1 IU/L
Norepinephrine	pg/ml	0.005911	nmol/L	XXX	0.01 nmol/L
Osmolality	mOsm/kg	1.0	mmol/kg	XX	1 mmol/kg
Pancreatic polypeptide	pg/ml	0.239	pmol/L		1 pmol/L
Phosphate (as inorganic phosphorus)	mg/dl	0.3229	mmol/L	X.XX	0.05 mmol/L
Phospholipid phosphorus	mg/dl	0.3229	mmol/L	XX	0.05 mmol/L
Progesterone	ng/ml	3.180	nmol/L	XX	2 nmol/L
Prolactin	ng/ml	1.0	μg/L	XX	1 μg/L
Protein, total	g/dl	10.0	g/L	XX	1 g/L
Pyruvate (as pyruvic acid)	mg/dl	113.6	μmol/L	XXX	1 μmol/L
Renin	ng · ml <sup>-1</sup> · h <sup>-1</sup>	0.2778	ng · L <sup>-1</sup> · s <sup>-1</sup>	X.XX	0.02 ng · L <sup>-1</sup> · s <sup>-1</sup>
Serotonin	μg/dl	0.05675	μmol/L	X.XX	0.05 μmol/L
Somatostatin	pg/ml	0.611	pmol/L	XX	1 pmol/L
Testosterone	ng/ml	3.467	nmol/L	XX.X	0.5 nmol/L
Thyroid-stimulating hormone	μU/dl	1.0	mU/L	X.X	0.1 mU/L
Thyroxine	μg/dl	12.87	nmol/L	XXX	1 nmol/L
Triiodothyronine	ng/dl	0.01536	nmol/L	X.X	0.1 nmol/L
Urea nitrogen	mg/dl	0.3570	mmol/L	X.X	0.5 mmol/L
Vasoactive intestinal polypeptide	pg/ml	0.331	pmol/L	X.X	1 pmol/L

Largely from Young DS: *Ann Intern Med* 106:114–29, 1987. For insulin see Vølund A, Brange J, Drejer K, Jensen I, Markussen J, Ribel V, Sørensen AR, Schlichtkrull J: In vitro and in vivo potency of insulin analogues designed for clinical use. *Diabetic Med* 8:839–47, 1991.