

Table 11.1. Some allometric relationships of energy and protein metabolism to body weight in mature animals of different species.

Function	Unit	Constant (a)	Exponent (b)	Reference
Resting metabolism	kJ d^{-1}	293	0.75	Kleiber (1975)
Protein synthesis whole body	g d^{-1}	15.8	0.72	Waterlow (1984)
Obligatory urinary nitrogen loss	mg d^{-1}	272	0.75	Henry and Collingwood (1998)
Liver weight	g	0.09	0.87	Prothero (1982)
Muscle weight	g	0.42	1.01	Else and Hulbert (1985)
Albumin breakdown	mg d^{-1}	5.83	0.68	Wetterfors (1985)
Total liver RNA	mg liver	?	0.755	Munro and Downie (1964)
rRNA turnover	nmol d^{-1}	~15	0.69	Schöch and Topp (1994)
tRNA turnover	nmol d^{-1}	~2000	0.78	Schöch and Topp (1994)
mRNA turnover	$\mu\text{mol d}^{-1}$	~2.53	0.75	Schöch and Topp (1994)
Mitochondrial membrane surface area	m^2 per whole organ			
Liver		0.98	0.64	Else and Hulbert (1985)
Muscle		5.10	0.78	
Oxygen consumption of hepatocytes	$\text{mg min}^{-1} \text{mg}^{-1}$ dry weight	6.83	-0.18	Porter and Brand (1995)

From the equation; $F = aW^b$, where F is the function and M = body mass