Table 3. Comparison of model predictions and experiments.

	Item	Model	Experimental data	References
A	HGP at −5.5 mM blood glucose HGU at 8 mM blood glucose	~4 µmol/kg(bw)/min HGU at 8 mM blood glucose	~8.5 µmol/min/kg(bw) splanchnic glucose utilization (SGU) at 8 mM glucose (difference between 7 µmol/min/kg (bw) splanchnic glucose production and 15.5 µmol/min/kg (bw) splanchnic glucose uptake at physiological insulin of 300 pmol/l at 8 mM)	[29]
		HGP/HGU set point: 6.6 mM glucose for half-filled glycogen; 7.3 mM glucose for filled glycogen stores;	HGU<SGU due to glucose usage of the gut	[29]
B	set point glycogenesis/ glycogenolysis	set point at 5.1 mM	set point at ~5 mM (~6 h postprandially)	[8,25]
C	rate of glycogenesis and cumulative glycogen content	increase from 250 to 350 mM glycogen at 7 mM (250 to 370 mM glycogen at 8 mM) glucose in 4 h with linear rate of glycogenesis	increase from ~200 to ~300 mM glycogen at ~7–8 mM glucose in 4 h with linear rate of glycogenesis	[8,24,25]
D	HGP after short term starvation and contributions from gluconeogenesis/glycogenolysis	~8.5 µmol/kg(bw)/min HGP for short term starvation (20 h at 3 mM glucose) with 95% HGP from gluconeogenesis (5% HGP from glycogenolysis)	7.56–9.8 µmol/kg(bw)/min HGP with 92–97% gluconeogenesis (2–8% HGP from glycogenolysis)	[2,22,50,51].
E	glycogen decrease (overnight fast)	decrease in glycogen from filled (500 mM) to half-filled glycogen stores (250 mM) in 16 h at 4.5 mM glucose	decrease in glycogen from almost filled stores to ~half-filled (200–250 mM) glycogen in around 18–20 h	[22]
		rate of glycogenolysis almost constant and only decreasing at low glycogen concentrations	rate of glycogenolysis almost constant and only decreasing at low glycogen concentrations	[22]
F	HGP for overnight fast and contributions from gluconeogenesis/glycogenolysis	~13.5 µmol/kg(bw)/min HGP at ~3.8 mM blood glucose with ~5.5 µmol/kg(bw)/min glycogenolysis (41%) and ~8 µmol/min/ kg(bw) gluconeogenesis (59%)	~12 µmol/kg(bw)/min HGP with nearly equal contributions of glycogenolysis and gluconeogenesis with ~6 µmol/kg(bw)/min (50%)	[2]
G	glycogenesis via direct and indirect pathway	equal rates of HGU and gluconeogenesis of 4 µmol/kg(bw)/min at 8 mM glucose (equal contributions of direct and indirect pathway)	~equal amounts of glycogenesis via direct (10 g) and indirect pathway (15 g) after oral glucose load	[69]
H	rate of glycogenolysis	~constant rate of glycogenolysis for partially filled glycogen stores and a decrease in glycogenolysis only for glycogen below ~150 mM	~constant rate of glycogenolysis for partially filled glycogen stores and a decrease in glycogenolysis only for low glycogen	[22,23]

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