Online Supporting Material

SUPPLEMENTAL TABLE 1. The Differential Equations

$$\frac{d[trp]}{dt} = \frac{1}{9} V_{trpsl}(portrp) - V_{TDO}(trp) - V_{PRO}(trp) + k_3 \cdot Lpool - k_1 \cdot trp \quad [1]$$

$$\frac{d[nfk]}{dt} = V_{TDO}(trp) - V_{AFD}(nfk, kyn) \quad [2]$$

$$\frac{d[kyn]}{dt} = V_{AFD}(nfk, kyn) - V_{KYN1}(kyn, plp) - V_{KAT1}(kyn, plp) - V_{KMO}(kyn) - d_3 \cdot kyn \quad [3]$$

$$\frac{d[ka]}{dt} = V_{KAT1}(kyn, plp) - d_4 \cdot ka \quad [4]$$

$$\frac{d[aa]}{dt} = V_{KYN1}(kyn, plp) - d_5 \cdot aa \quad [5]$$

$$\frac{d[hk]}{dt} = V_{KMO}(kyn) - V_{KAT2}(hk, plp) - V_{KYN2}(hk, kyn, plp) - d_6 \cdot hk \quad [6]$$

$$\frac{d[xa]}{dt} = V_{KAT2}(hk, plp) - d_7 \cdot xa \quad [7]$$

$$\frac{d[haa]}{dt} = V_{KYN2}(hk, kyn, plp) - V_{HAO}(haa) - d_8 \cdot haa \quad [8]$$

$$\frac{d[qa]}{dt} = V_{HAO}(haa) - d_9 \cdot qa \quad [9]$$

$$\frac{d[portrp]}{dt} = -V_{trpsl}(portrp) + 9V_{trpgs}(gtrp) + 3m \cdot (pertrp - portrp) + 9k_1 \cdot trp \quad [10]$$

$$\frac{d[lpool]}{dt} = V_{PRO}(trp) - k_3 \cdot lpool \quad [11]$$

$$\frac{d[mtrp]}{dt} = (8/90)V_{trp}(pertrp) - k_4 \cdot mtrp - V_{PRO}(mtrp) + k_3 \cdot mpool \quad [12]$$

$$\frac{d[mpool]}{dt} = V_{PRO}(mtrp) - k_3 \cdot mpool \quad [13]$$

$$\frac{d[pertrp]}{dt} = \frac{90}{8} k_4 \cdot mtrp + \frac{3}{8} m \cdot (portrp - pertrp) - V_{trpsm}(pertrp) - k_2 \cdot trp \quad [14]$$

$$\frac{d[gtrp]}{dt} = -V_{trpgs}(gtrp) + gutin(t) \quad [15]$$

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SUPPLEMENTAL TABLE 2. 24-h urinary metabolite excretion in adequate and deficient vitamin B-6 status at basal and after tryptophan load. Data after simulation of trp load are presented as area-under-the curve (AUC).

	Urinary metabolite excretion			
	Basal		**Trp load**	
	Adequate	**Deficient**	**Adequate**	**Deficient**
	µmol/24h			
Kyn	2.9	3.2	72	92
KA	5.0	3.6	123	92
AA	4.9	3.4	100	69
HK	2.0	3.4	50	86
XA	2.0	2.2	49	55
HaA	4.6	4.8	95	97
QA	23.0	23.7	468	474
Total[1]	44.3	44.3	957	964

[1] Total excretion of tryptophan catabolites (*µmol/24h)* is indicative of the predicted flux of whole body tryptophan catabolism.