

Supplementary Table 5. Constraints for MFA model

	Parental - normoxia		RAS		AKT		Parental - hypoxia	
	Average	Std	Average	Std	Average	Std	Average	Std
Glucose uptake ($\mu\text{mole}/\mu\text{L cells/h}$)	0.098	0.008	0.183	0.020	0.170	0.020	0.157	0.006
Glutamine uptake ($\mu\text{mole}/\mu\text{L cells/h}$)	0.040	0.008	0.054	0.005	0.045	0.008	0.037	0.003
Lactate secretion (F12) ($\mu\text{mole}/\mu\text{L cells/h}$)	0.143	0.014	0.340	0.040	0.270	0.050	0.295	0.011
Pyruvate + alanine secretion (F18) ($\mu\text{mole}/\mu\text{L cells/h}$)	0.017	0.003	0.016	0.005	0.020	0.005	0.012	0.003
O2 consumption by OxPhos (F19) ($\text{nmole}/\mu\text{L cells/h}$)	170.100	16.200	124.500	16.600	195.300	27.900	113.581	19.567
Demand flux: glucose to ribose ($\text{nmole}/\mu\text{L cells/h}$)	2.900	0.580	3.163	0.633	3.103	0.621	1.450	0.290
Demand flux: proteomic gln/glu/pro ($\text{nmole}/\mu\text{L cells/h}$)	2.846	0.569	3.105	0.621	3.252	0.650	1.423	0.285
Demand flux: acetyl-CoA (F14) ($\text{nmole}/\mu\text{L cells/h}$)	2.077	0.415	1.958	0.392	4.806	0.961	0.200	0.040
Demand flux: serine biosynthesis (F17) ($\text{nmole}/\mu\text{L cells/h}$)	5.430	0.600	3.980	0.840	6.480	1.780	0.430	0.030