SUPPLEMENTAL DATA

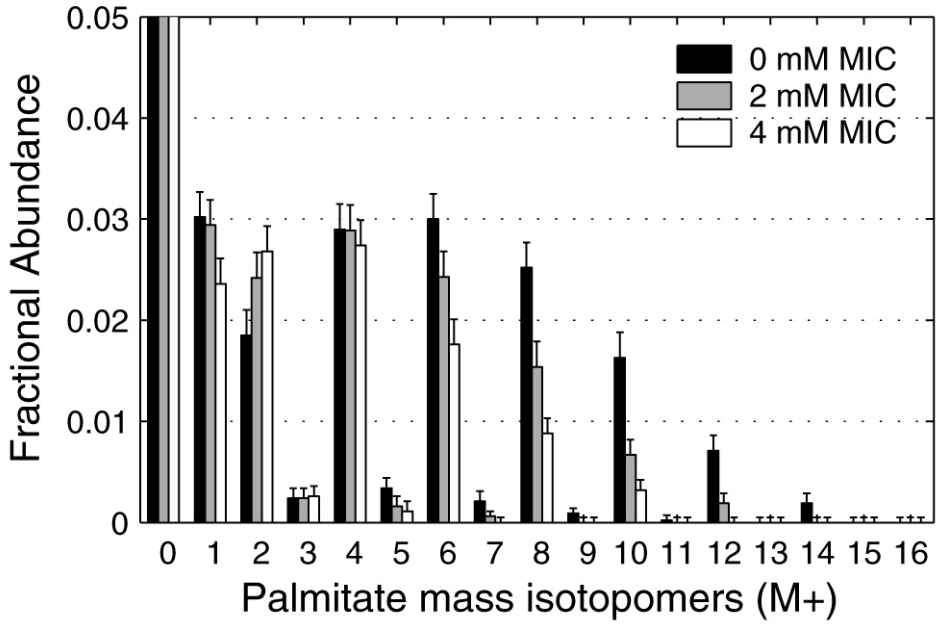

Figure S1. Effect of 2-methylisocitrate (MIC) on palmitate synthesis from [U-^{13}C]glutamine. Shown is the mass isotopomer distribution of palmitate from WT brown adipocytes on day 4, after 6-hr incubation in media containing 4 mM [U-^{13}C]glutamine and 0, 2, or 4 mM 2-methylisocitrate (mean ± SEM; n=3). Data were corrected for natural isotope enrichments.

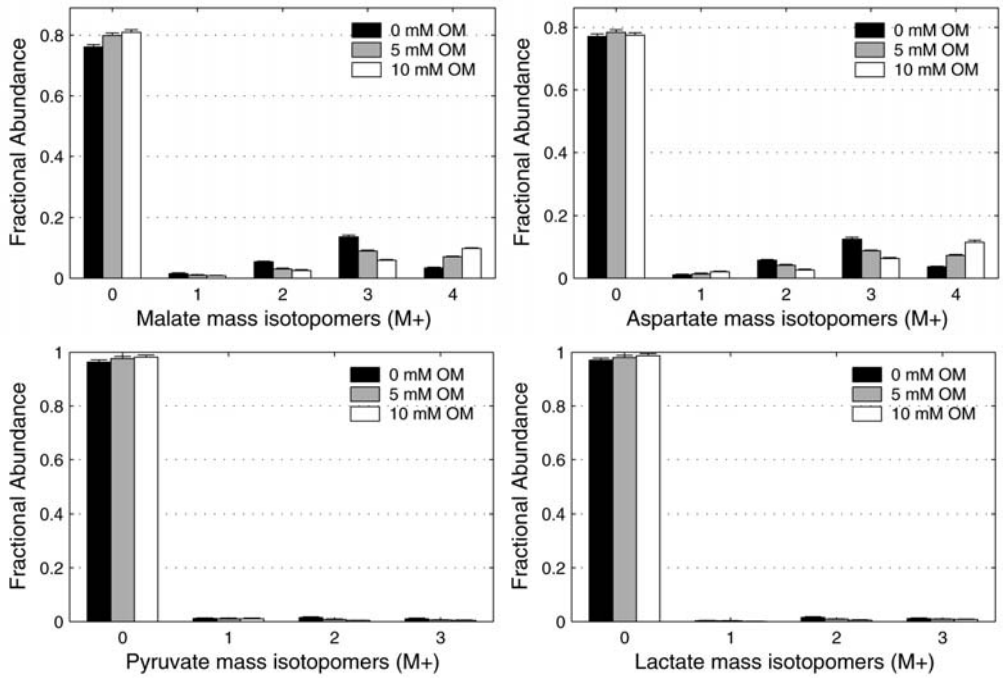

Figure S2. Effect of increasing concentration of oxalomalate on labeling patterns of intracellular metabolites. Shown are mass isotopomer distributions of malate, aspartate, pyruvate and lactate on day 4, after 6-hr incubation in media containing 4 mM [U-^{13}C]glutamine and 0, 5, or 10 mM oxalomalate Data were corrected for natural isotope enrichments.

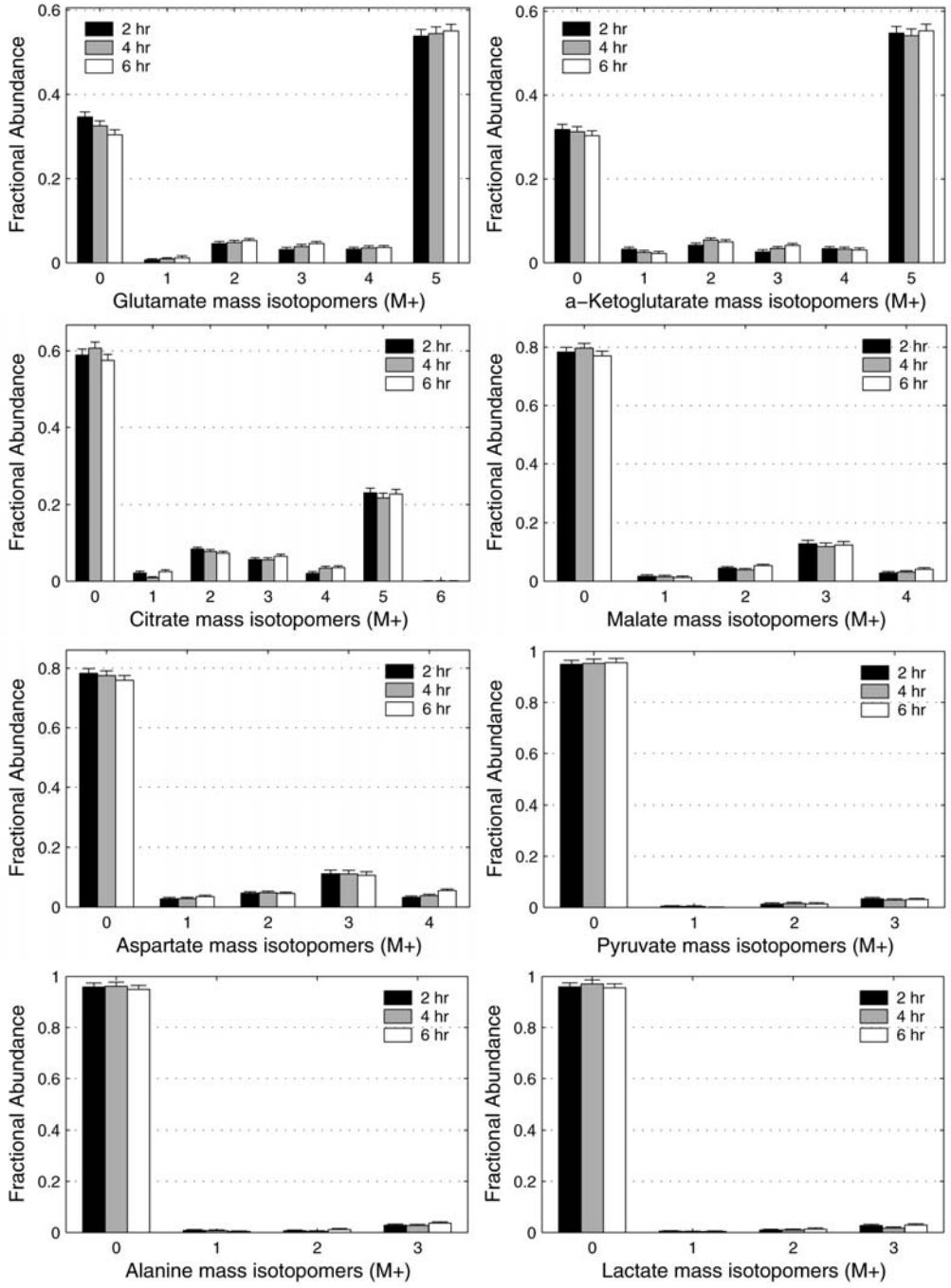

Figure S3. Confirmation of isotopic steady-state assumption by time-course ^{13}C-labeling experiment. Shown are the mass isotopomer distributions of intracellular metabolites from WT brown adipocytes measured at 2, 4, and 6 hrs after incubation with 4 mM [U-^{13}C]glutamine on day 4. Data were corrected for natural isotope enrichments.

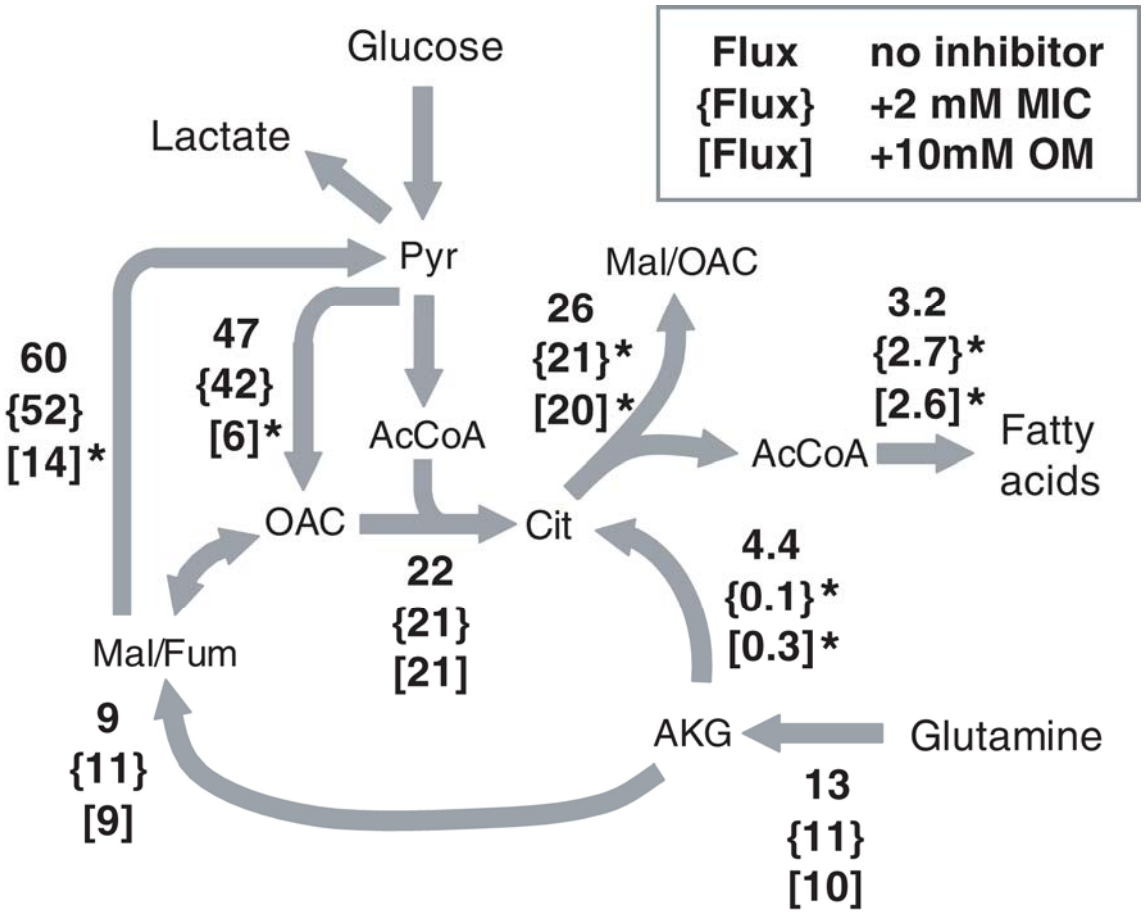

Figure S4. Effect of oxalomalate and 2-methylisocitrate on the flux phenotype in WT brown adipocytes. Fluxes (μmol/g-protein/hr) were determined with the software Metran by minimizing the difference between measured and predicted mass isotopomers. Shown are fluxes for three representative conditions: the control condition with no inhibitor, 2 mM 2-methylisocitrate (MIC), and 10 mM oxalomalate (OM). Abbreviations: Pyr, pyruvate; Mal, malate; Fum, fumarate; OAC, oxaloacetate; AcCoA, acetyl-CoA; Cit, citrate; AKG, alpha-ketoglutarate. Asterisk (*) indicates a significant flux difference compared to the control condition ($P < 0.01$). Fluxes are represented by first and last metabolite of nonbranching pathways; thus, some details of the fluxes (e.g., glutamate as an intermediate in glutamine to AKG flux) have been omitted for clarity.