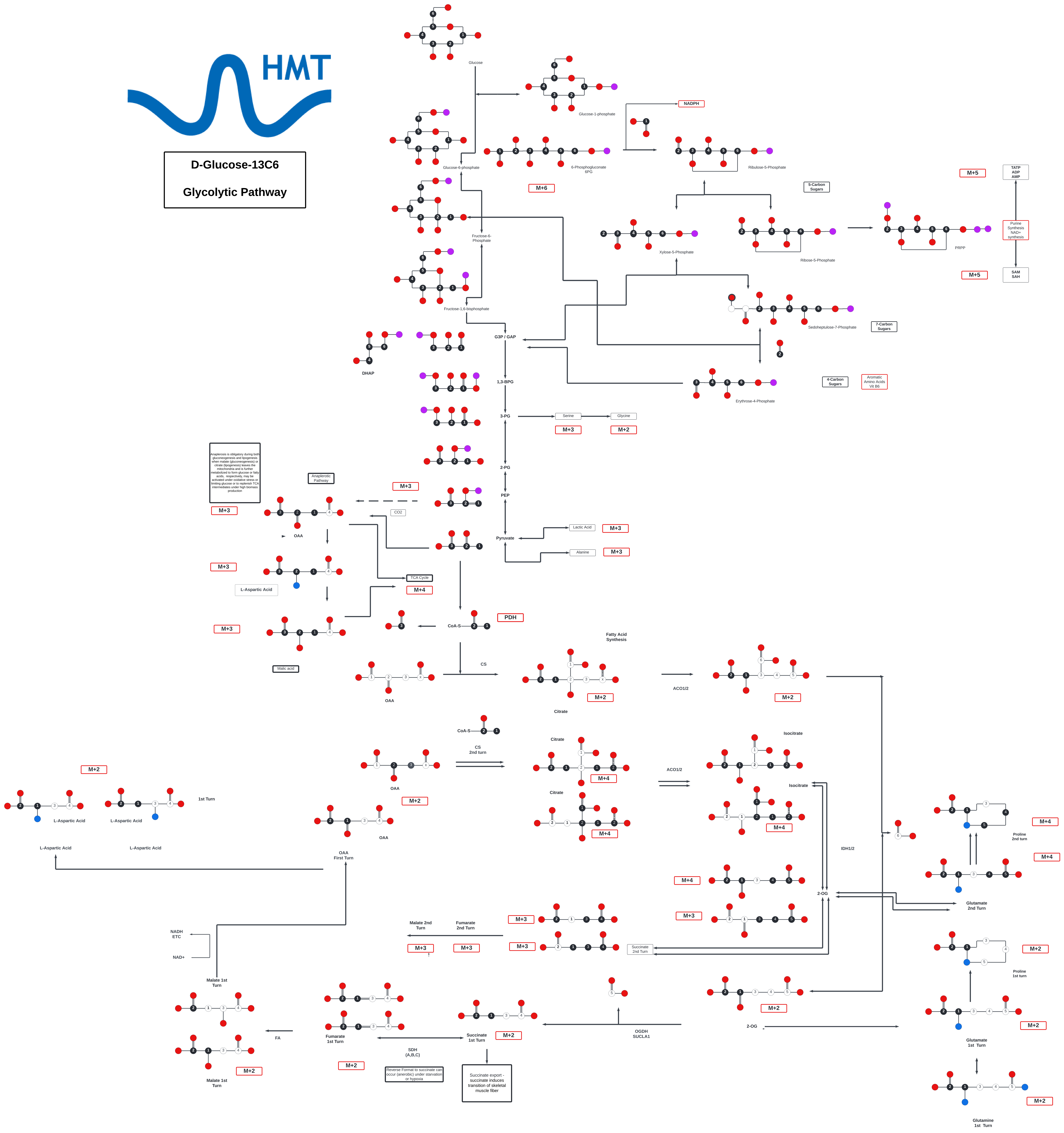




D-Glucose-13C6 Glycolytic Pathway



Anaplerosis is obligatory during both gluconeogenesis and lipogenesis when malate (gluconeogenesis) or citrate (lipogenesis) leaves the mitochondria and is further metabolized to form glucose or fatty acids, respectively. It may be activated under oxidative stress or limiting glucose or to replenish TCA intermediates under high biomass production.

Anaplerotic Pathway

Reverse Formate to succinate can occur (anaerobic) under starvation or hypoxia

Succinate export - succinate induces transition of skeletal muscle fiber