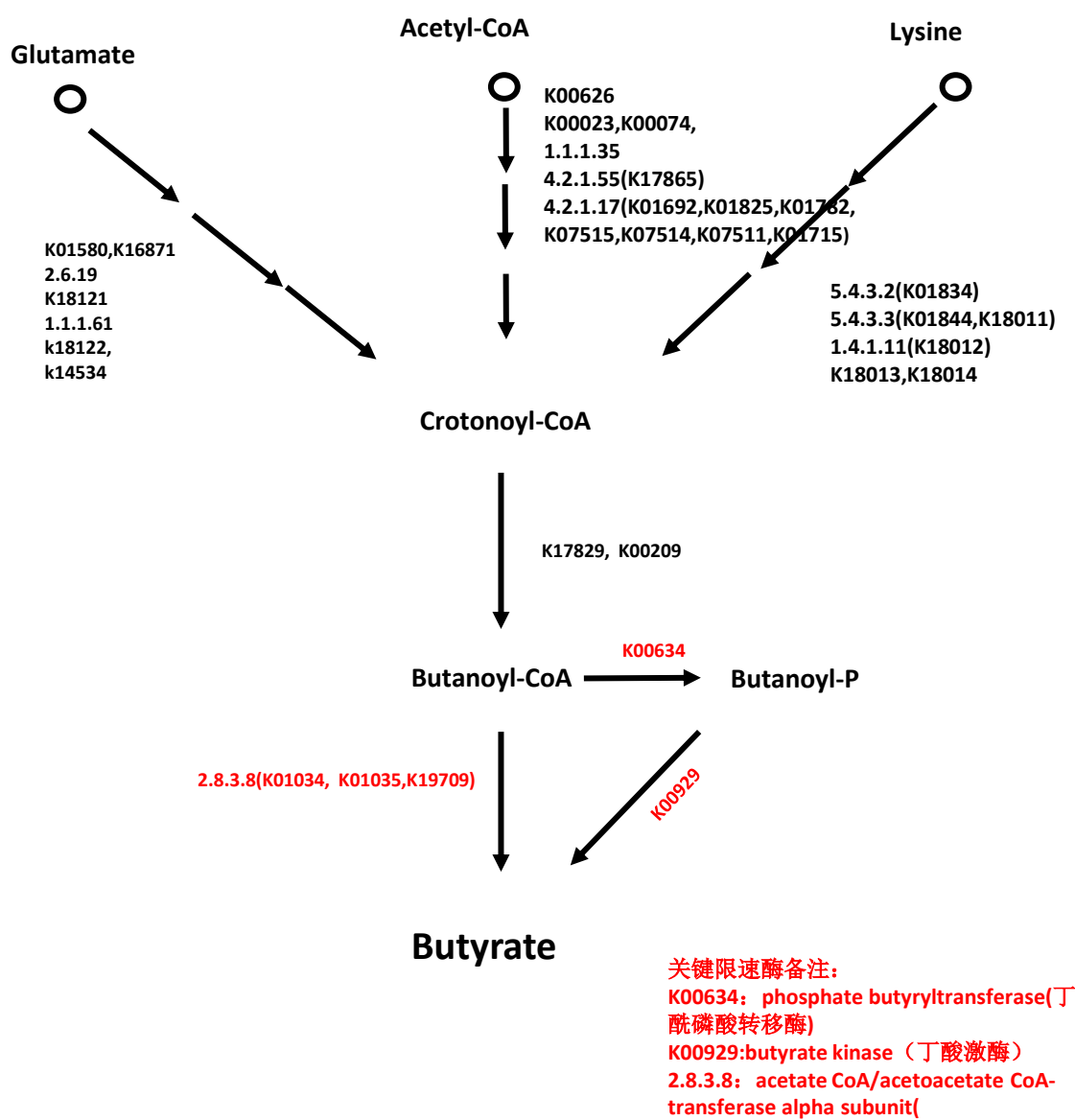


# 丁酸代谢



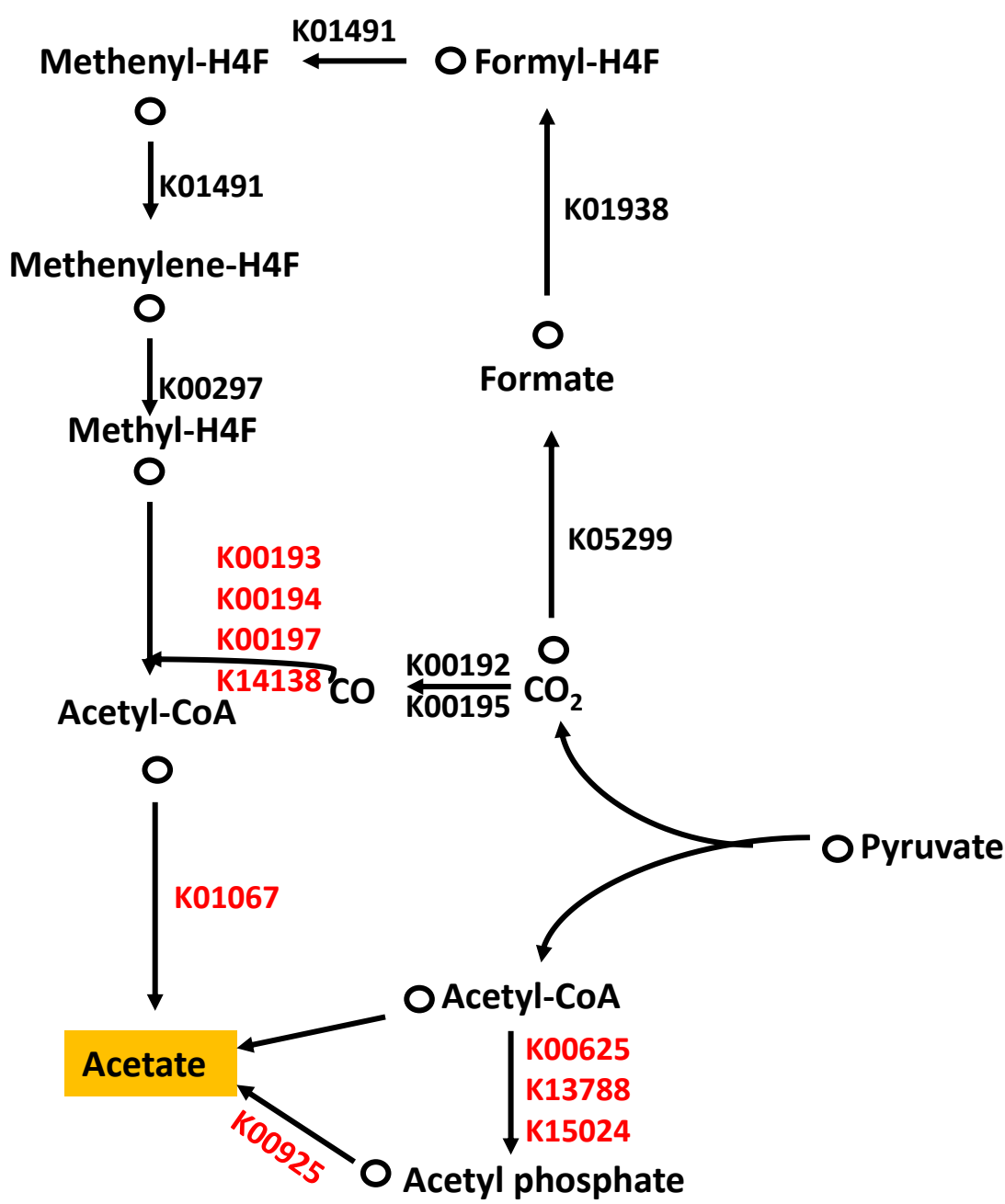
丁酰CoA:乙酸) CoA转移酶途径在动物肠道中广泛存在，并且它对丁酸合成的贡献甚至可能超过了丁酸激酶 Louis等（2010）设计该基因保守引物对人胃肠道总DNA进行PCR扩增，获得1718条序列，分属于32个不同的OTU，揭示了人肠道该酶序列的多样性，并且在不同年龄和不同饮食状况人的肠道中丰度不同。

Louis P. et al. Diversity of human colonic butyrate-producing bacteria revealed by analysis of the butyryl-CoA: acetate CoA-transferase gene. Environmental Microbiology, 2010, 12 ( 2 ) :304-314

Hippe B. et al. Quantification of butyryl CoA: acetate CoA-transferase genes reveals different butyrate production capacity in individuals according to diet and age. FEMS Microbiology Letters, 2011, 316 ( 2 ) : 130-135.

Vermeiren J .et al. Decreased colonization of fecal Clostridium coccoides /Eubacterium rectale species from ulcerative colitis patients in an in vitro dynamic gut model with mucin environment. FEMS Microbiology Ecology, 2012, 79(3) :685-696.

Acetate代谢



Key enzyme（红色为关键酶）：

K05299 :formate dehydrogenase alpha subunit 甲酸脱氢酶

K00198: anaerobic carbon-monoxide dehydrogenase catalytic subunit CO脱氢酶

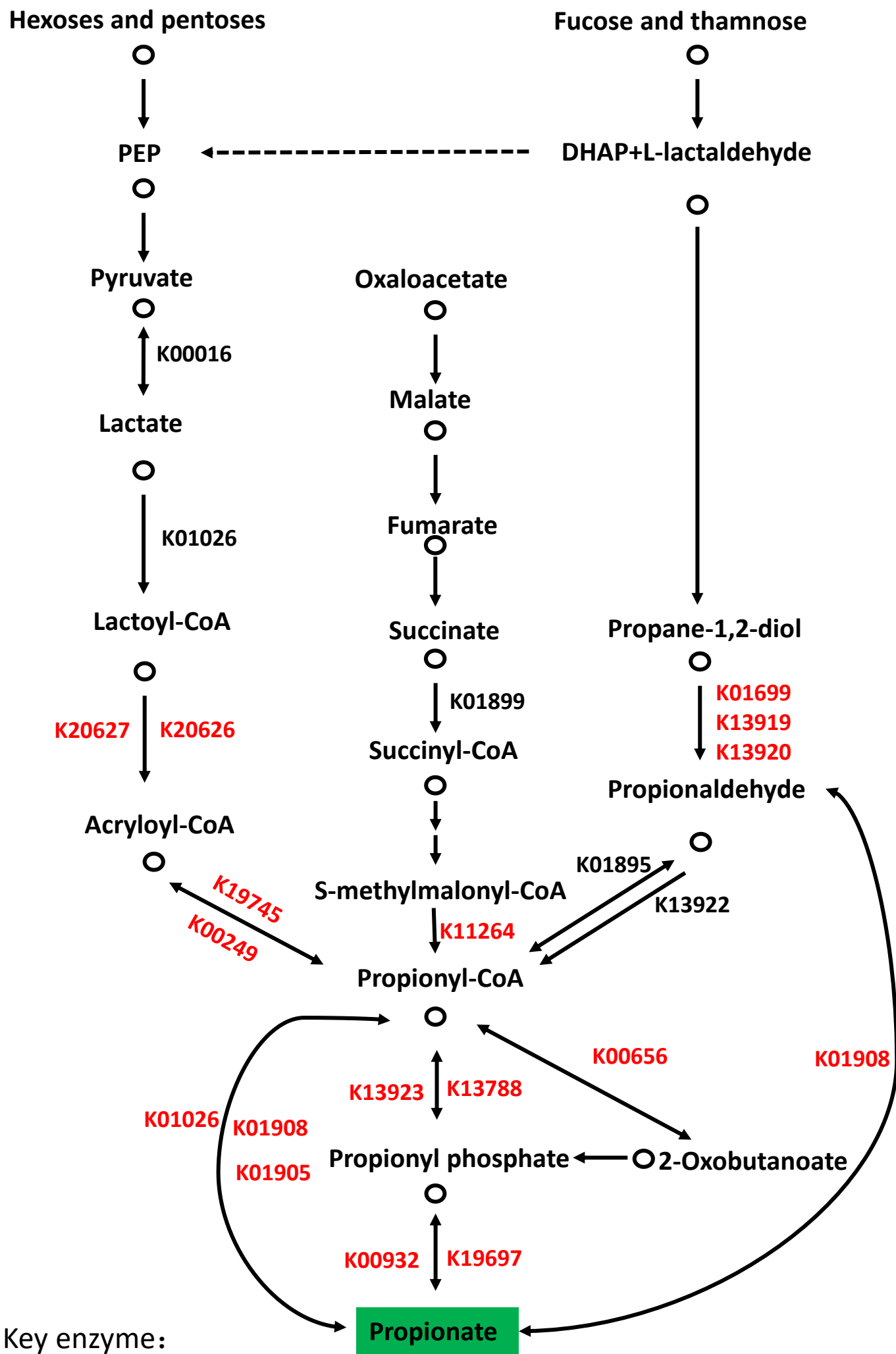
K14138:acetyl-CoA synthase 乙酰辅酶A合成酶

K00625:phosphatase acetyltransferase

K00925:acetate kinase 乙酸激酶

K01067:acetyl-CoA hydrolase 乙酰辅酶A脱水酶

丙酸代谢



Key enzyme:

K13923:phosphate propanoyltransferase

K13788:phosphate acetyltransferase

K00932:propionate kinase

K00925:acetate kinase

K01905:acetyl-CoA synthetase

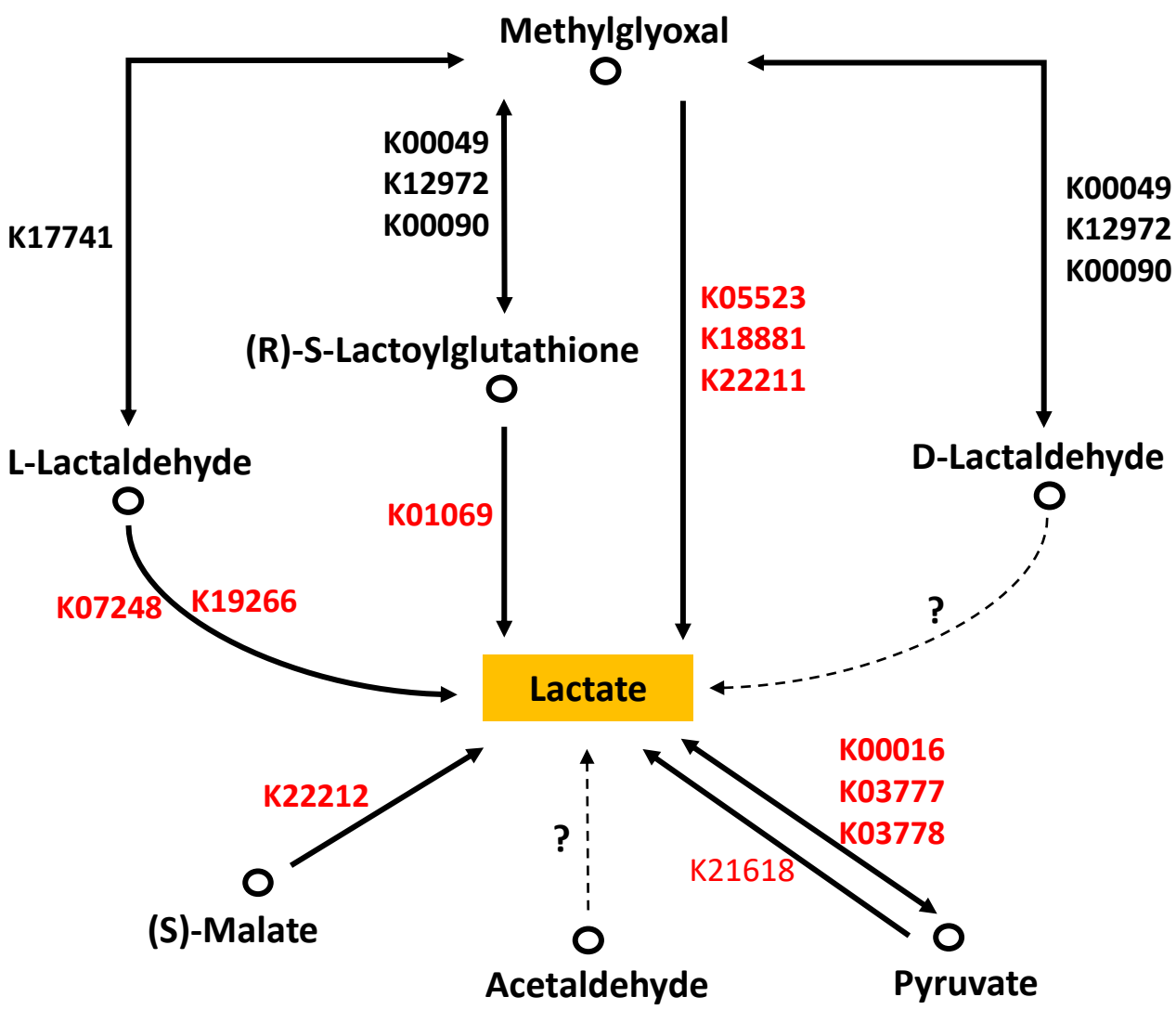
K01908:propionyl-CoA synthetase

K01026:propionate CoA-transferase

K01895:acetyl-CoA synthetase

K00656:formate C-acetyltransferase

乳酸形成



K03777、K03778: D-lactate dehydrogenase (quinone) [EC:1.1.5.12]  
K21618: (R)-2-hydroxyglutarate---pyruvate transhydrogenase [EC:1.1.99.40]