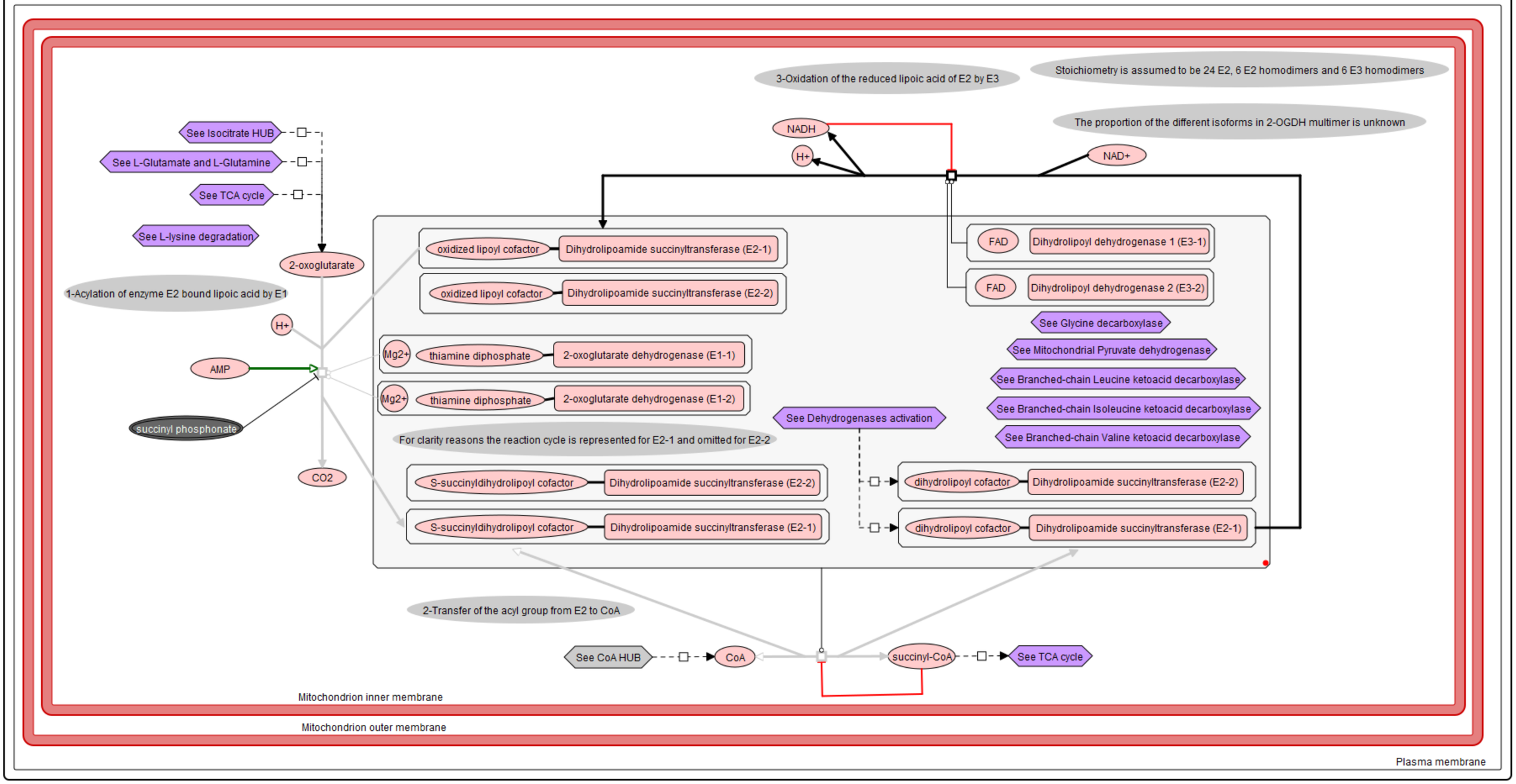
3-Oxidation of the reduced lipoic acid of E2 by E3
Stoichiometry is assumed to be 24 E2, 6 E2 homodimers and 6 E3 homodimers
The proportion of the different isoforms in 2-OGDH multimer is unknown
NADH
H+
NAD+
See Isocitrate HUB
See L-Glutamate and L-Glutamine
See TCA cycle
See L-lysine degradation
2-oxoglutarate
1-Acylation of enzyme E2 bound lipoic acid by E1
H+
AMP
succinyl phosphonate
CO2
oxidized lipoyl cofactor
Dihydrolipoamide succinyltransferase (E2-1)
oxidized lipoyl cofactor
Dihydrolipoamide succinyltransferase (E2-2)
Mg2+
thiamine diphosphate
2-oxoglutarate dehydrogenase (E1-1)
Mg2+
thiamine diphosphate
2-oxoglutarate dehydrogenase (E1-2)
For clarity reasons the reaction cycle is represented for E2-1 and omitted for E2-2
S-succinyldihydrolipoyl cofactor
Dihydrolipoamide succinyltransferase (E2-2)
S-succinyldihydrolipoyl cofactor
Dihydrolipoamide succinyltransferase (E2-1)
FAD
Dihydrolipoyl dehydrogenase 1 (E3-1)
FAD
Dihydrolipoyl dehydrogenase 2 (E3-2)
See Glycine decarboxylase
See Mitochondrial Pyruvate dehydrogenase
See Branched-chain Leucine ketoacid decarboxylase
See Branched-chain Isoleucine ketoacid decarboxylase
See Branched-chain Valine ketoacid decarboxylase
See Dehydrogenases activation
dihydrolipoyl cofactor
Dihydrolipoamide succinyltransferase (E2-2)
dihydrolipoyl cofactor
Dihydrolipoamide succinyltransferase (E2-1)
2-Transfer of the acyl group from E2 to CoA
See CoA HUB
CoA
succinyl-CoA
See TCA cycle
Mitochondrion inner membrane
Mitochondrion outer membrane
Plasma membrane