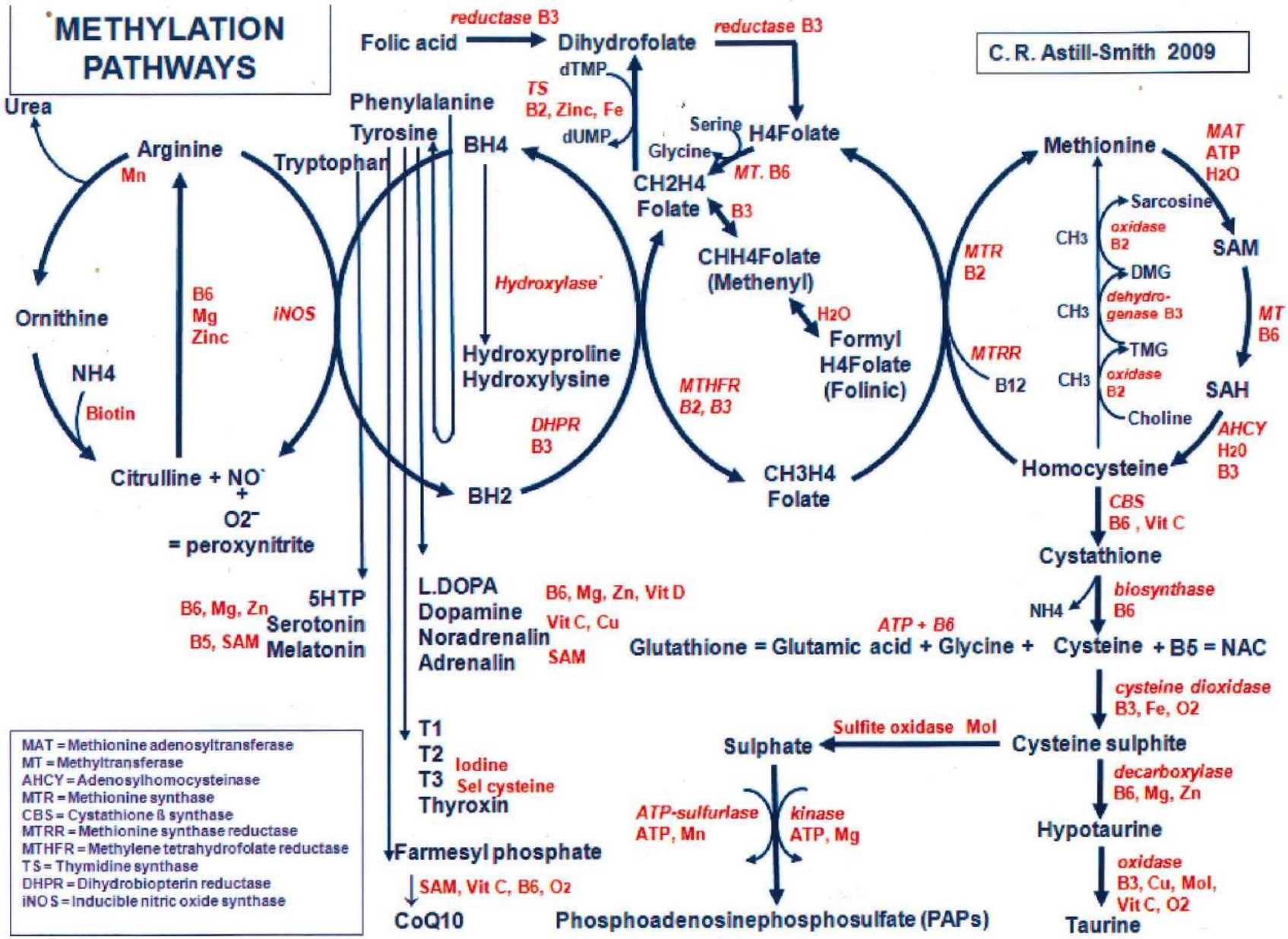
METHYLATION PATHWAYS
C. R. Astill-Smith 2009
Urea
Arginine
Mn
Ornithine
NH4
Biotin
Citrulline + NO` + O2⁻ = peroxynitrite
B6
Mg
Zinc
iNOS
Tryptophan
Phenylalanine
Tyrosine
BH4
Hydroxylase
Hydroxyproline
Hydroxylysine
DHPR
B3
BH2
Folic acid
reductase B3
Dihydrofolate
reductase B3
dTMP
TS
B2, Zinc, Fe
dUMP
Serine
Glycine
H4Folate
MT. B6
CH2H4 Folate
B3
CHH4Folate (Methenyl)
H2O
Formyl H4Folate (Folinic)
MTHFR
B2, B3
CH3H4 Folate
MTR
B2
MTRR
B12
Methionine
MAT
ATP
H2O
Sarcosine
oxidase
B2
CH3
DMG
dehydro-genase B3
CH3
TMG
oxidase
B2
CH3
Choline
SAM
MT
B6
SAH
AHCY
H20
B3
Homocysteine
CBS
B6 , Vit C
Cystathione
biosynthase
B6
NH4
Cysteine + B5 = NAC
ATP + B6
Glutathione = Glutamic acid + Glycine +
cysteine dioxidase
B3, Fe, O2
Cysteine sulphite
Sulfite oxidase Mol
Sulphate
decarboxylase
B6, Mg, Zn
Hypotaurine
oxidase
B3, Cu, Mol,
Vit C, O2
Taurine
ATP-sulfurlase
ATP, Mn
kinase
ATP, Mg
Phosphoadenosinephosphosulfate (PAPs)
B6, Mg, Zn
5HTP
Serotonin
B5, SAM
Melatonin
L.DOPA
Dopamine
Noradrenalin
Adrenalin
B6, Mg, Zn, Vit D
Vit C, Cu
SAM
T1
T2
T3
Iodine
Sel cysteine
Thyroxin
Farmesyl phosphate
SAM, Vit C, B6, O2
CoQ10
MAT = Methionine adenosyltransferase
MT = Methyltransferase
AHCY = Adenosylhomocysteinase
MTR = Methionine synthase
CBS = Cystathione ß synthase
MTRR = Methionine synthase reductase
MTHFR = Methylene tetrahydrofolate reductase
TS = Thymidine synthase
DHPR = Dihydrobiopterin reductase
iNOS = Inducible nitric oxide synthase