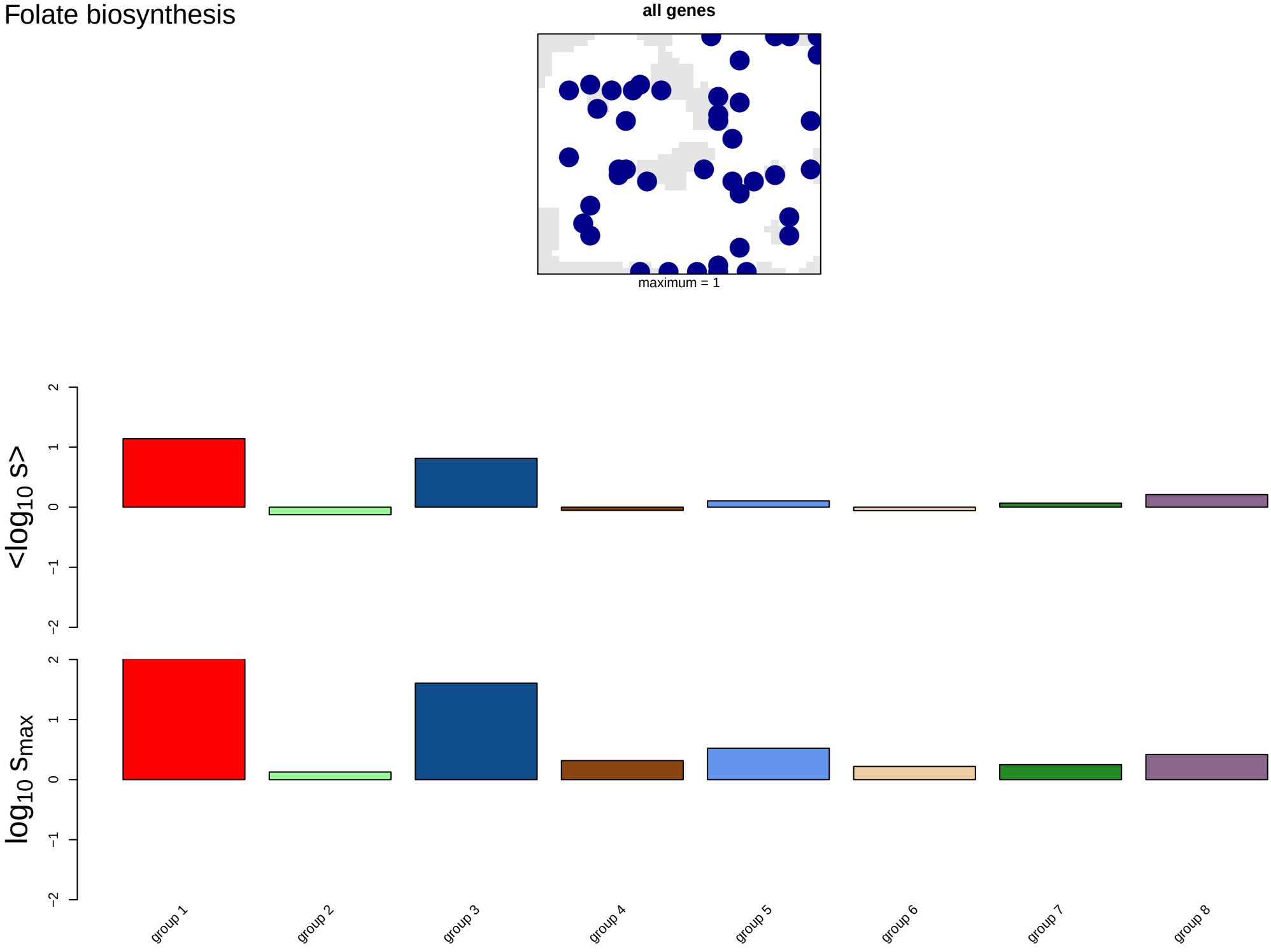
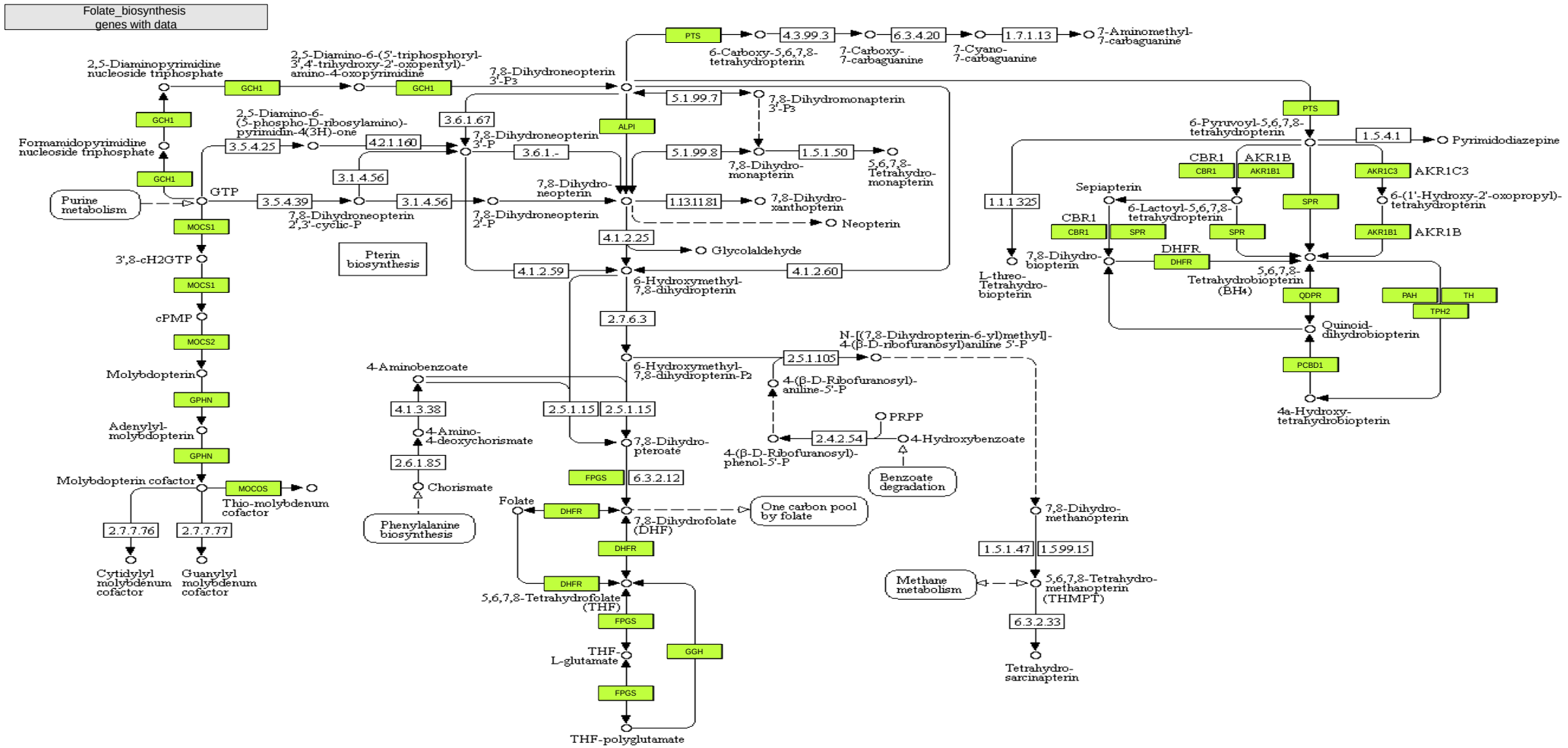
Folate biosynthesis





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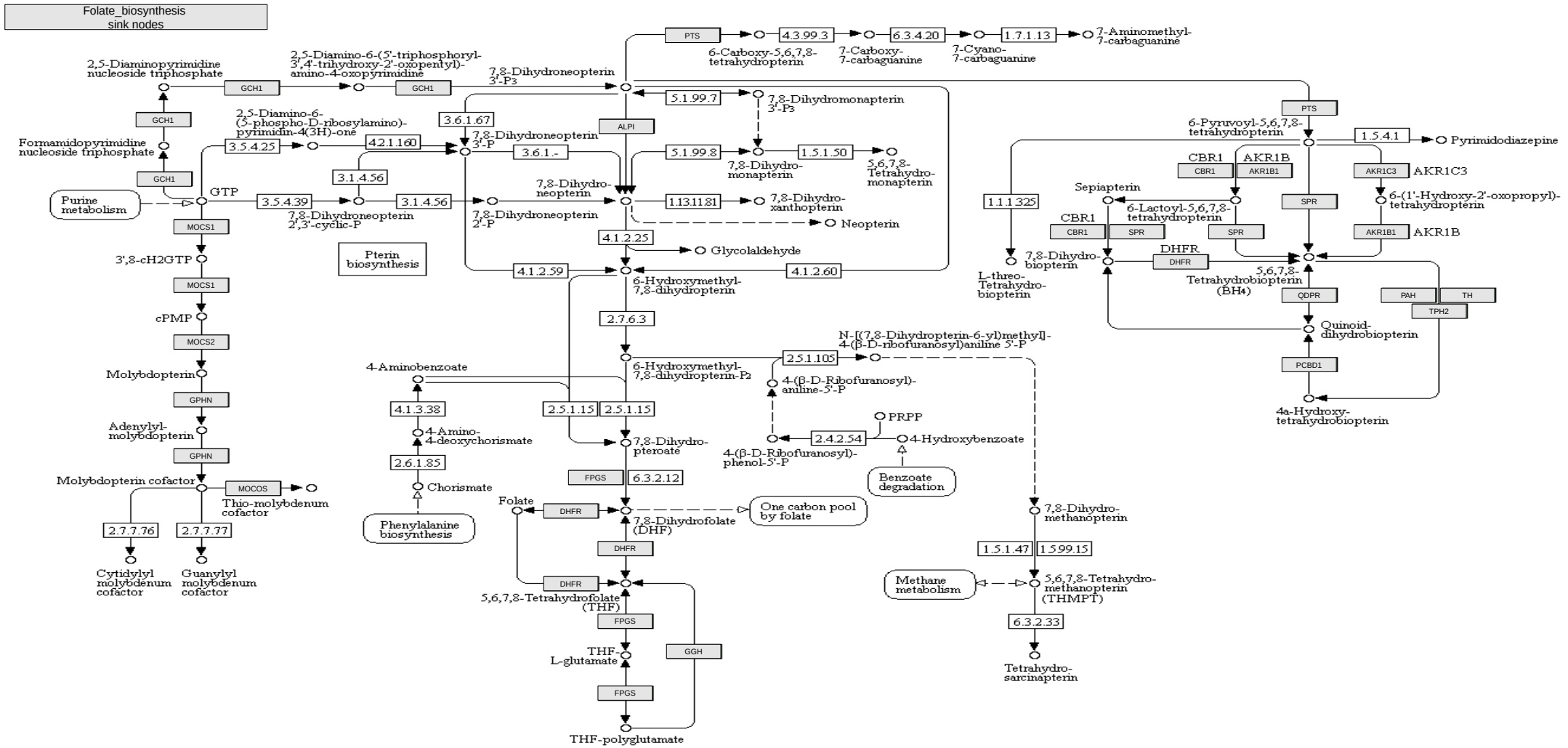

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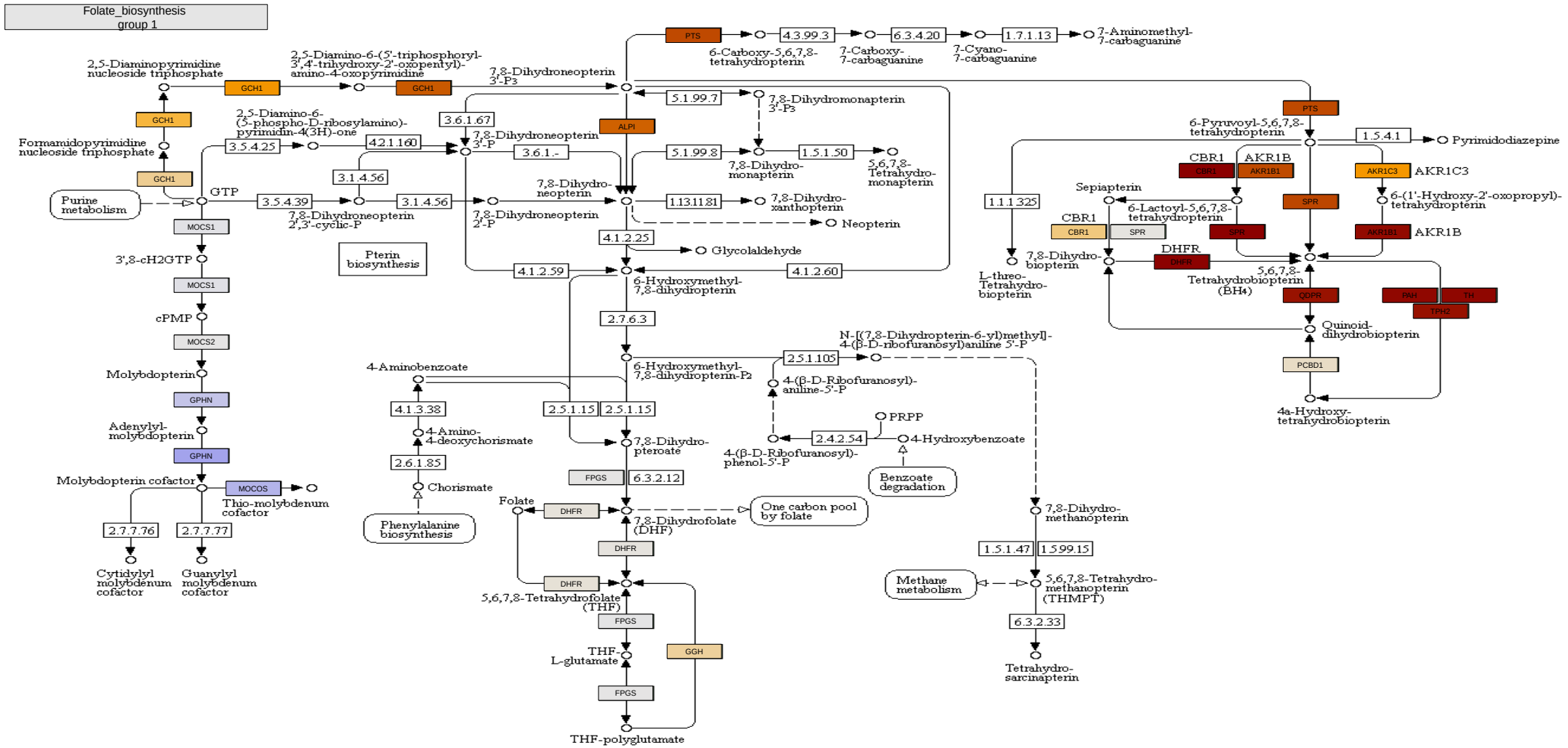

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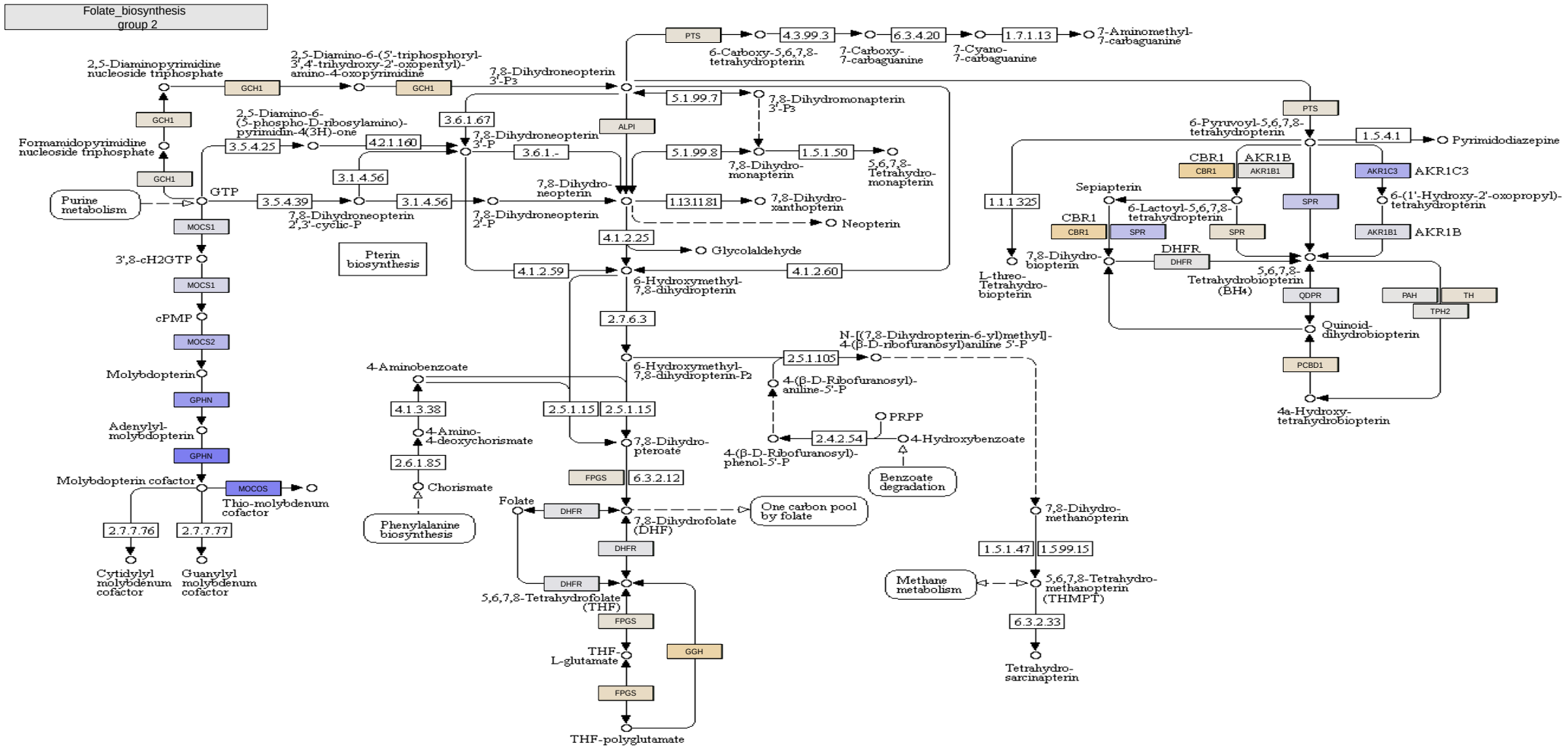

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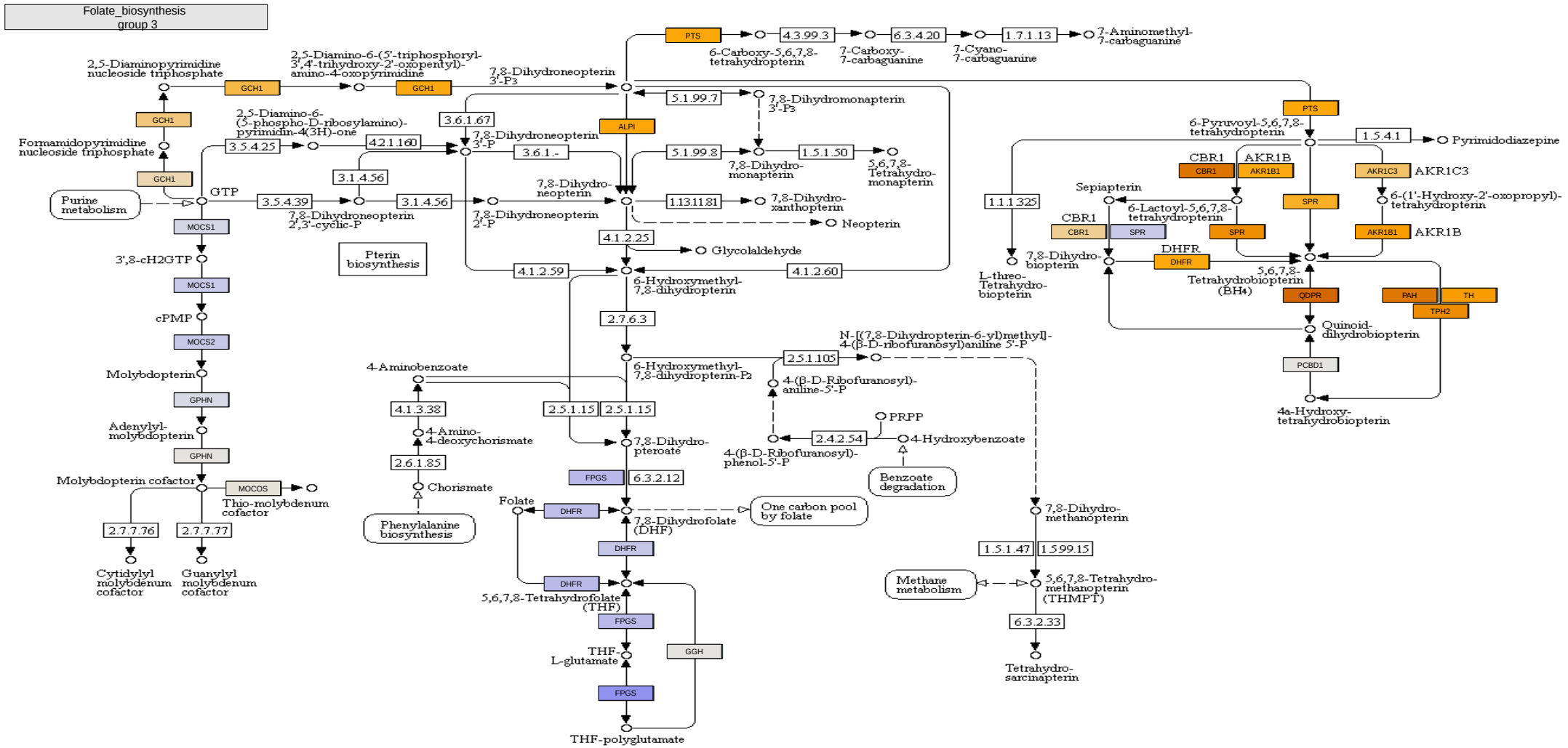
Folate_biosynthesis
group 3
PTS
4.3.99.3
6.3.4.20
1.7.1.13
7-Aminomethyl-
7-carbaguanine
6-Carboxy-5,6,7,8-
tetrahydropterin
7-Carboxy-
7-carbaguanine
7-Cyano-
7-carbaguanine
2,5-Diaminopyrimidine
nucleoside triphosphate
GCH1
GCH1
2,5-Diamino-6-(5'-triphosphoryl-
3',4'-trihydroxy-2'-oxopentyl)-
amino-4-oxopyrimidine
7,8-Dihydroneopterin
3'-P3
5.1.99.7
7,8-Dihydromonapterin
3'-P3
3.6.1.67
ALPI
2,5-Diamino-6-
(5-phospho-D-ribosylamino)-
pyrimidin-4(3H)-one
Formamidopyrimidine
nucleoside triphosphate
3.5.4.25
4.2.1.160
7,8-Dihydroneopterin
3'-P
3.6.1.-
5.1.99.8
1.5.1.50
7,8-Dihydro-
monapterin
5,6,7,8-
Tetrahydro-
monapterin
3.1.4.56
7,8-Dihydro-
neopterin
1.13.11.81
7,8-Dihydro-
xanthopterin
Purine
metabolism
GTP
3.5.4.39
3.1.4.56
7,8-Dihydroneopterin
2',3'-cyclic-P
7,8-Dihydroneopterin
2'-P
Neopterin
4.1.2.25
Glycolaldehyde
Pterin
biosynthesis
4.1.2.59
4.1.2.60
6-Hydroxymethyl-
7,8-dihydropterin
MOCS1
3',8-cH2GTP
MOCS1
cPMP
MOCS2
Molybdopterin
GPHN
Adenylyl-
molybdopterin
GPHN
Molybdopterin cofactor
MOCOS
Thio-molybdenum
cofactor
2.7.7.76
2.7.7.77
Cytidylyl
molybdenum
cofactor
Guanylyl
molybdenum
cofactor
2.7.6.3
6-Hydroxymethyl-
7,8-dihydropterin-P2
N-[(7,8-Dihydropterin-6-yl)methyl]-
4-(β-D-ribofuranosyl)aniline 5'-P
2.5.1.105
4-(β-D-Ribofuranosyl)-
aniline-5'-P
4-Aminobenzoate
4.1.3.38
4-Amino-
4-deoxychorismate
2.6.1.85
Chorismate
Phenylalanine
biosynthesis
2.5.1.15
2.5.1.15
7,8-Dihydro-
pteroate
PRPP
2.4.2.54
4-Hydroxybenzoate
4-(β-D-Ribofuranosyl)-
phenol-5'-P
Benzoate
degradation
FPGS
6.3.2.12
Folate
DHFR
One carbon pool
by folate
7,8-Dihydrofolate
(DHF)
DHFR
DHFR
5,6,7,8-Tetrahydrofolate
(THF)
FPGS
THF-
L-glutamate
GGH
FPGS
THF-polyglutamate
7,8-Dihydro-
methanopterin
1.5.1.47
1.5.99.15
Methane
metabolism
5,6,7,8-Tetrahydro-
methanopterin
(THMPT)
6.3.2.33
Tetrahydro-
sarcinapterin
PTS
6-Pyruvoyl-5,6,7,8-
tetrahydropterin
1.5.4.1
Pyrimidodiazepine
CBR1
AKR1B
CBR1
AKR1B1
AKR1C3
AKR1C3
Sepiapterin
1.1.1.325
6-Lactoyl-5,6,7,8-
tetrahydropterin
SPR
6-(1'-Hydroxy-2'-oxopropyl)-
tetrahydropterin
CBR1
SPR
SPR
AKR1B1
AKR1B
DHFR
DHFR
7,8-Dihydro-
biopterin
L-threo-
Tetrahydro-
biopterin
5,6,7,8-
Tetrahydrobiopterin
(BH4)
QDPR
PAH
TH
TPH2
Quinoid-
dihydrobiopterin
PCBD1
4a-Hydroxy-
tetrahydrobiopterin
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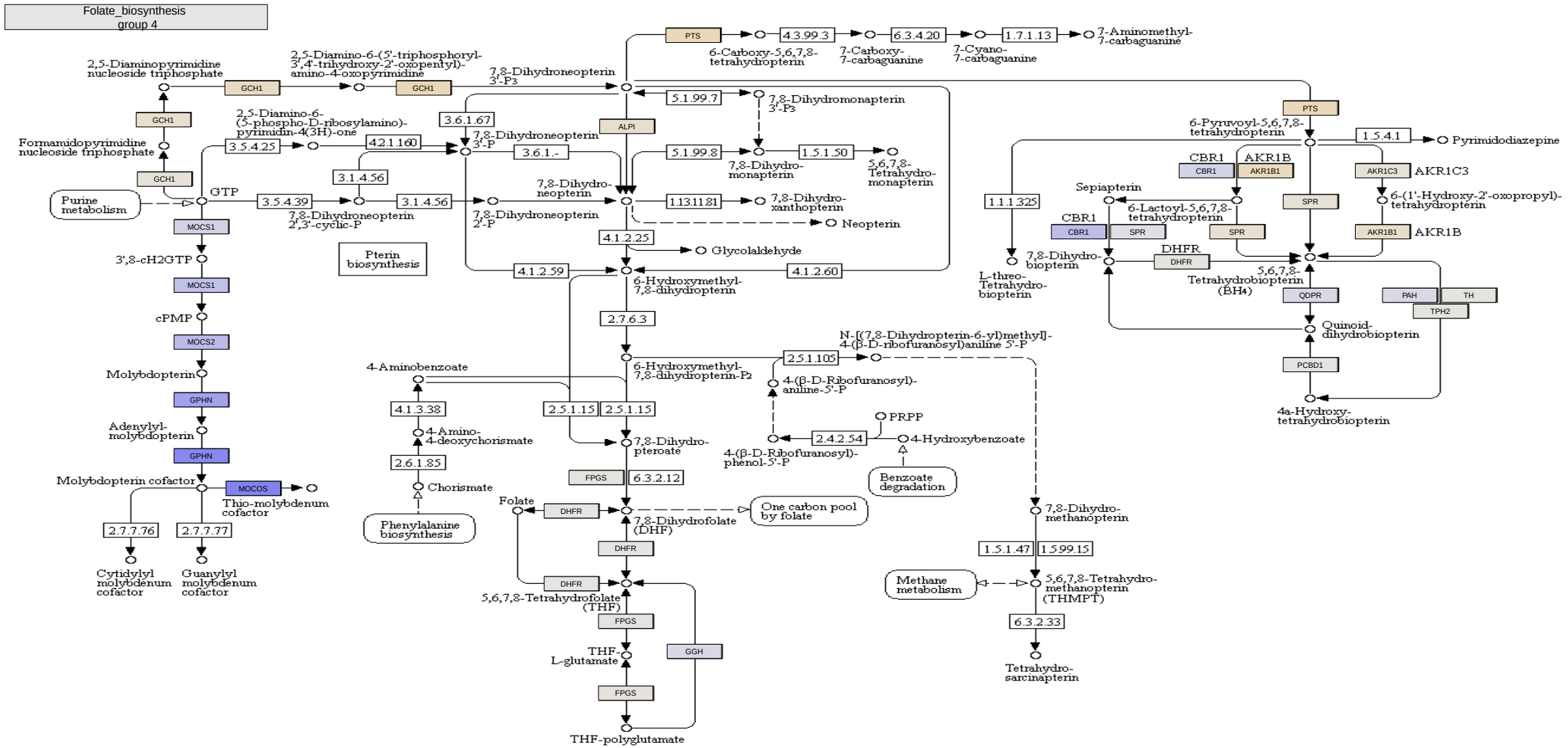

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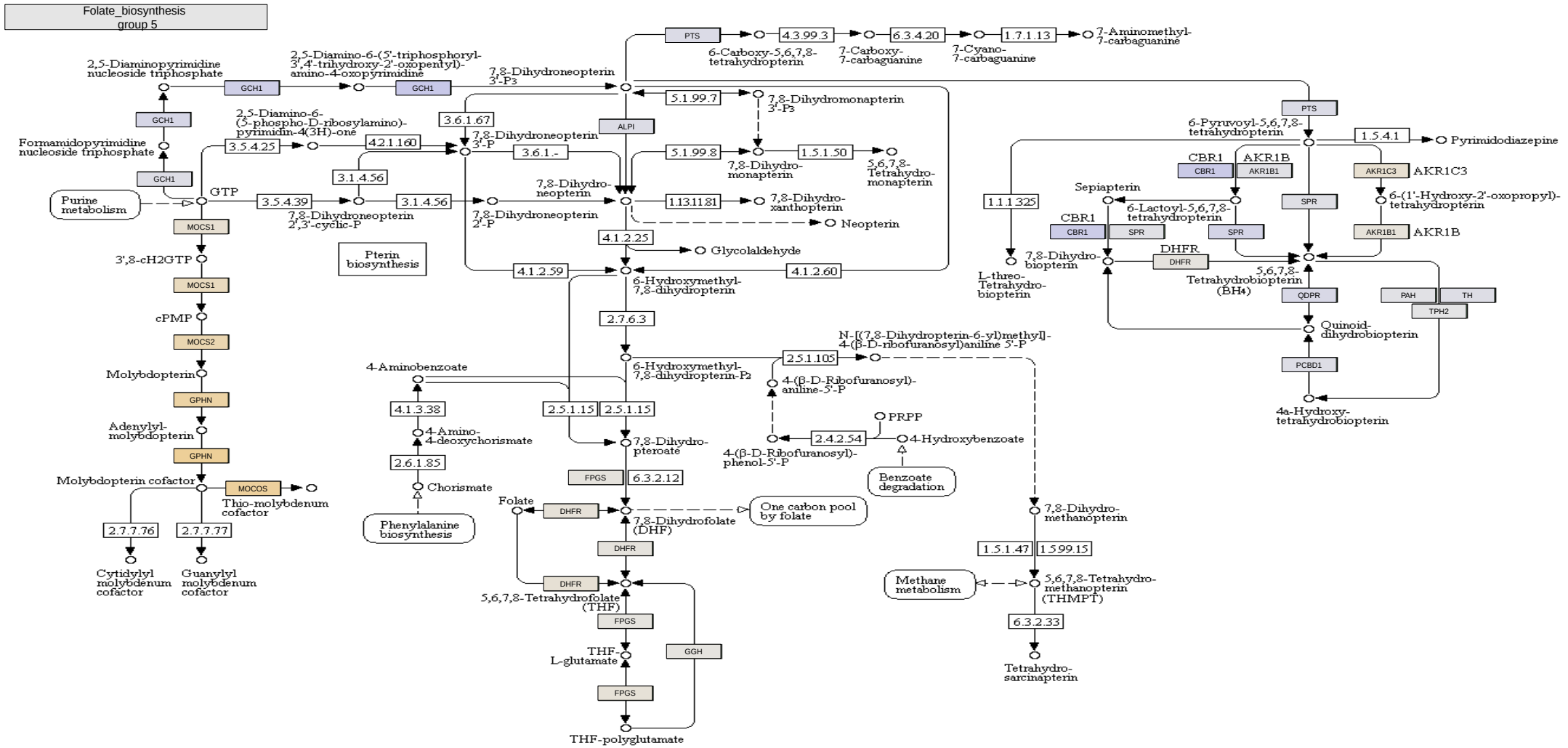
Folate_biosynthesis
group 5
2,5-Diaminopyrimidine nucleoside triphosphate
GCH1
2,5-Diamino-6-(5'-triphosphoryl-3',4'-trihydroxy-2'-oxopentyl)-amino-4-oxopyrimidine
7,8-Dihydroneopterin 3'-P3
PTS
4.3.99.3
6-Carboxy-5,6,7,8-tetrahydropterin
6.3.4.20
7-Carboxy-7-carbaguanine
1.7.1.13
7-Cyano-7-carbaguanine
7-Aminomethyl-7-carbaguanine
5.1.99.7
7,8-Dihydromonapterin 3'-P3
3.6.1.67
2,5-Diamino-6-(5-phospho-D-ribosylamino)-pyrimidin-4(3H)-one
ALPI
Formamidopyrimidine nucleoside triphosphate
3.5.4.25
4.2.1.160
7,8-Dihydroneopterin 3'-P
3.6.1.-
5.1.99.8
7,8-Dihydro-monapterin
1.5.1.50
5,6,7,8-Tetrahydro-monapterin
3.1.4.56
7,8-Dihydro-neopterin
1.13.11.81
7,8-Dihydro-xanthopterin
Purine metabolism
GTP
3.5.4.39
7,8-Dihydroneopterin 2',3'-cyclic-P
3.1.4.56
7,8-Dihydroneopterin 2'-P
Neopterin
4.1.2.25
Glycolaldehyde
MOCS1
3',8-cH2GTP
Pterin biosynthesis
4.1.2.59
4.1.2.60
6-Hydroxymethyl-7,8-dihydropterin
MOCS1
cPMP
2.7.6.3
MOCS2
Molybdopterin
GPHN
Adenylyl-molybdopterin
GPHN
Molybdopterin cofactor
MOCOS
Thio-molybdenum cofactor
2.7.7.76
2.7.7.77
Cytidylyl molybdenum cofactor
Guanylyl molybdenum cofactor
4-Aminobenzoate
4.1.3.38
4-Amino-4-deoxychorismate
2.6.1.85
Chorismate
Phenylalanine biosynthesis
2.5.1.15
2.5.1.15
6-Hydroxymethyl-7,8-dihydropterin-P2
7,8-Dihydro-pteroate
FPGS
6.3.2.12
Folate
DHFR
7,8-Dihydrofolate (DHF)
One carbon pool by folate
DHFR
DHFR
5,6,7,8-Tetrahydrofolate (THF)
FPGS
THF-L-glutamate
GGH
FPGS
THF-polyglutamate
2.5.1.105
N-[(7,8-Dihydropterin-6-yl)methyl]-4-(β-D-ribofuranosyl)aniline 5'-P
4-(β-D-Ribofuranosyl)-aniline-5'-P
PRPP
2.4.2.54
4-(β-D-Ribofuranosyl)-phenol-5'-P
4-Hydroxybenzoate
Benzoate degradation
7,8-Dihydro-methanopterin
1.5.1.47
1.5.99.15
Methane metabolism
5,6,7,8-Tetrahydro-methanopterin (THMPT)
6.3.2.33
Tetrahydro-sarcinapterin
PTS
6-Pyruvoyl-5,6,7,8-tetrahydropterin
1.5.4.1
Pyrimidodiazepine
CBR1
AKR1B
CBR1
AKR1B1
AKR1C3
AKR1C3
Sepiapterin
1.1.1.325
6-Lactoyl-5,6,7,8-tetrahydropterin
SPR
6-(1'-Hydroxy-2'-oxopropyl)-tetrahydropterin
CBR1
SPR
SPR
AKR1B1
AKR1B
DHFR
DHFR
7,8-Dihydro-biopterin
L-threo-Tetrahydro-biopterin
5,6,7,8-Tetrahydrobiopterin (BH4)
QDPR
PAH
TH
TPH2
Quinoid-dihydrobiopterin
PCBD1
4a-Hydroxy-tetrahydrobiopterin
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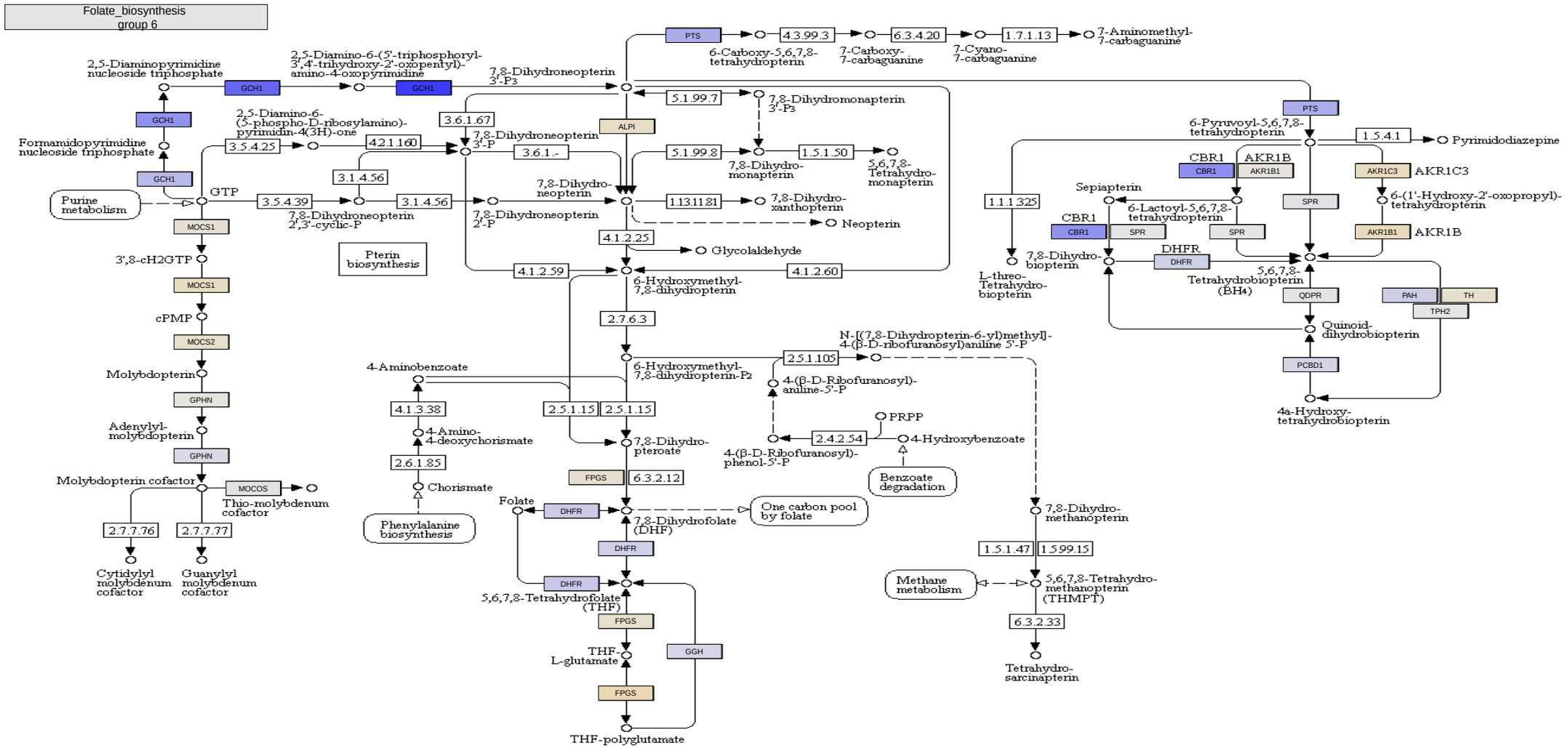

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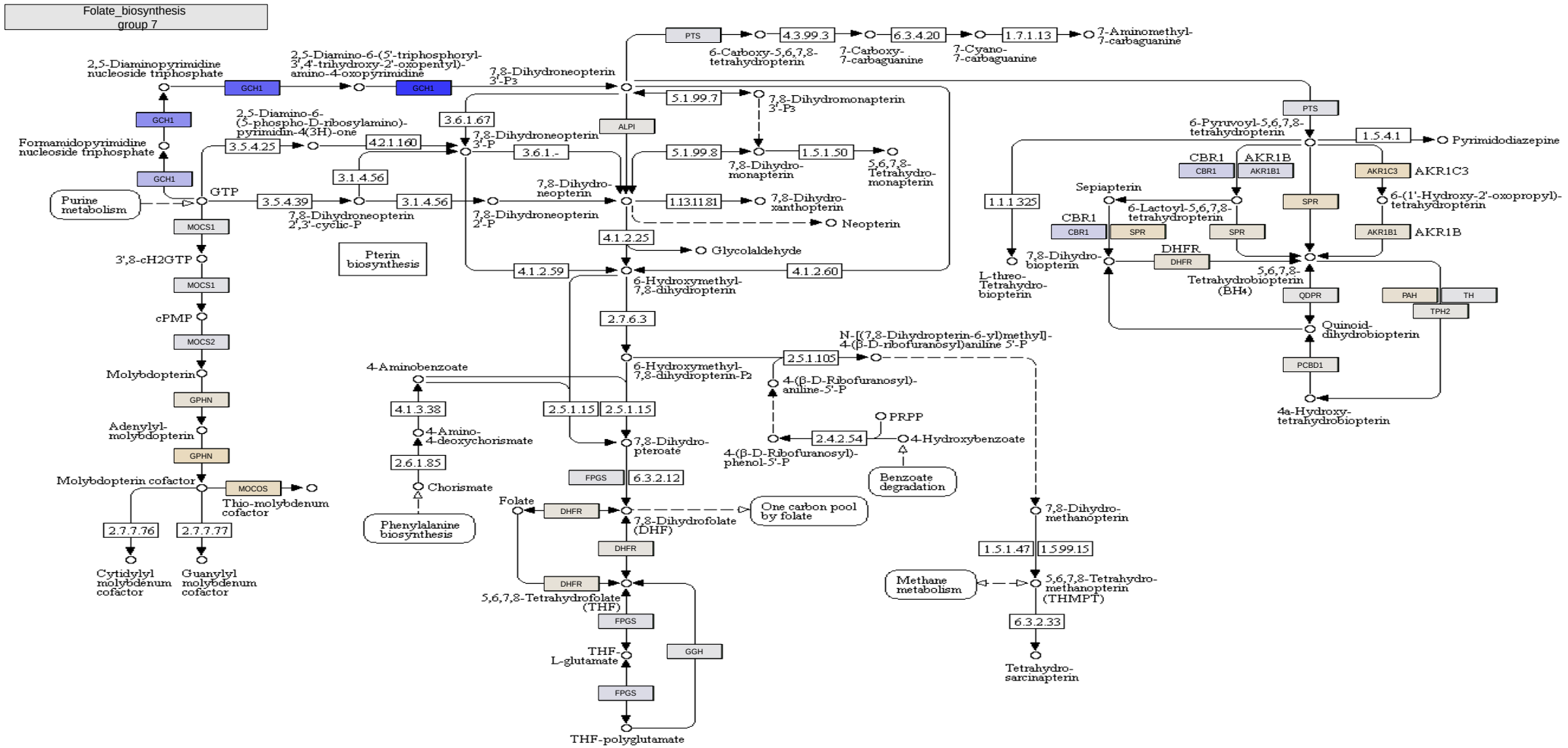
Folate_biosynthesis
group 7
2,5-Diaminopyrimidine nucleoside triphosphate
GCH1
2,5-Diamino-6-(5'-triphosphoryl-3',4'-trihydroxy-2'-oxopentyl)-amino-4-oxopyrimidine
7,8-Dihydroneopterin 3'-P3
PTS
4.3.99.3
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6.3.4.20
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1.7.1.13
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4.2.1.160
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Formamidopyrimidine nucleoside triphosphate
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1.13.11.81
7,8-Dihydro-xanthopterin
Neopterin
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3.5.4.39
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3.1.4.56
7,8-Dihydroneopterin 2'-P
4.1.2.25
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4.1.2.60
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Molybdopterin cofactor
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2.7.7.76
2.7.7.77
Cytidylyl molybdenum cofactor
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2.6.1.85
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7,8-Dihydro-pteroate
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2.4.2.54
4-Hydroxybenzoate
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Benzoate degradation
FPGS
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Folate
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One carbon pool by folate
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DHFR
5,6,7,8-Tetrahydrofolate (THF)
FPGS
THF-L-glutamate
GGH
FPGS
THF-polyglutamate
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AKR1B
CBR1
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SPR
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7,8-Dihydro-biopterin
L-threo-Tetrahydro-biopterin
5,6,7,8-Tetrahydrobiopterin (BH4)
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Quinoid-dihydrobiopterin
PCBD1
4a-Hydroxy-tetrahydrobiopterin
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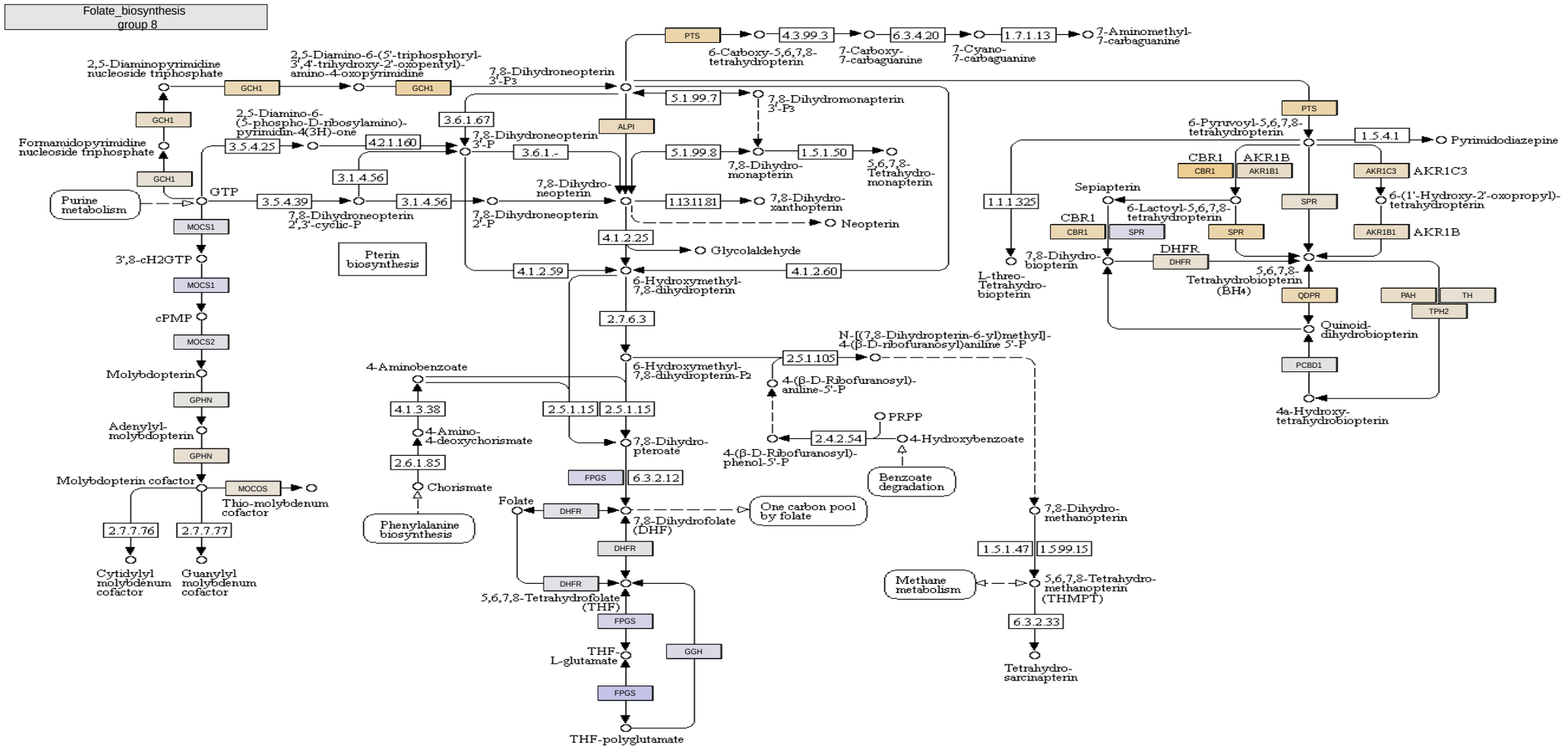

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