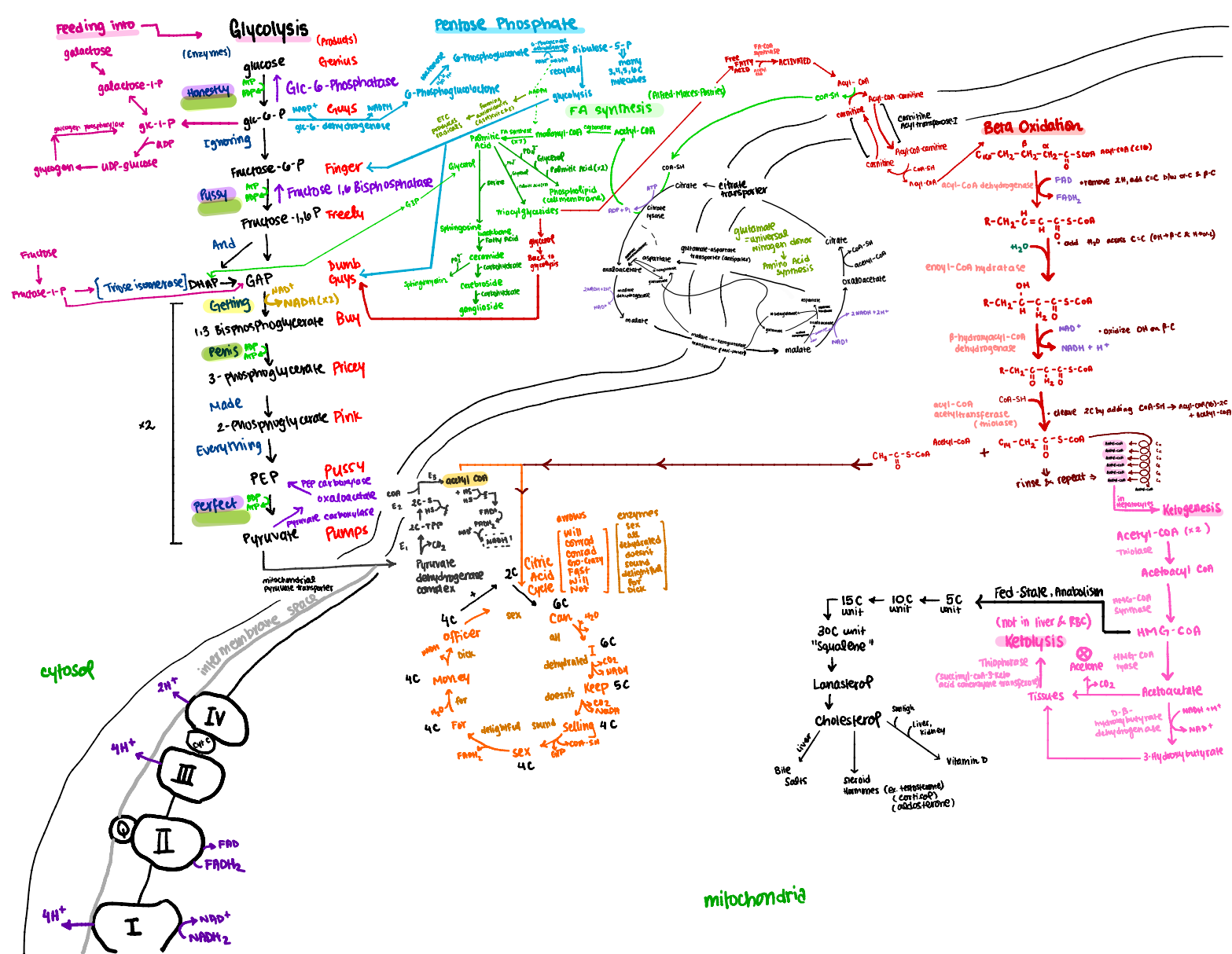
Feeding into
galactose
galactose-1-P
glc-1-P
glycogen phosphorylase
ADP
glycogen
UDP-glucose
Glycolysis
(Enzymes)
(Products)
glucose
Genius
Honestly
ATP
ATP
Glc-6-Phosphatase
glc-6-P
NADP+
Guys
NADPH
glc-6- dehydrogenase
Ignoring
Fructose-6-P
Finger
Pussy
ATP
ATP
Fructose 1,6 Bisphosphatase
Fructose-1,6P
Freeby
And
Fructose
Fructose-1-P
Triose isomerase
DHAP
GAP
Dumb Guys
Getting
NAD+
NADH (x2)
1,3 Bisphosphoglycerate
Buy
Penis
ATP
ADP
3-Phosphoglycerate
Pricey
Made
2-Phosphoglycerate
Pink
Everything
PEP
Perfect
ATP
ADP
Pussy
PEP carboxylase
oxaloacetate
pyruvate carboxylase
Pumps
Pyruvate
×2
mitochondrial pyruvate transporter
Pentose Phosphate
6-Phosphogluconate
Ribulose-5-P
many 3,4,5,6C molecules
6-Phosphoglucolactone
NADPH
NADPH
ETC products (NADH, FADH2, ATP)
glycolysis
FA synthesis
(Fatted Mares Farts)
Palmitic Acid
malonyl-CoA
acetyl-CoA
Glycerol
Palmitic Acid (x2)
Phospholipid (cell membranes)
Triacylglycerides
Sphingosine
Fatty Acid
Ceramide
Cerebroside
Cerebrosulfate
Ganglioside
Sphingomyelin
Glycerol
Back to glycolysis
Free FATTY ACID
FA-CoA synthase
ACTIVATED
Acyl-CoA
CoA-SH
Acyl-CoA-carnitine
carnitine
carnitine Acyl transferase I
carnitine
Acyl-CoA-carnitine
CoA-SH
Acyl-CoA
Beta Oxidation
Acyl-CoA dehydrogenase
FAD
FADH2
+remove 2H, add C=C btw α-C & β-C
Enoyl-CoA hydratase
H2O
+add H2O across C=C (OH→β-C & H→α-C)
β-hydroxyacyl-CoA dehydrogenase
NAD+
NADH + H+
+oxidize OH on β-C
acyl-CoA acetyltransferase (thiolase)
CoA-SH
+cleave 2C by adding CoA-SH → Acyl-CoA(n-2C) + Acetyl-CoA
Acetyl-CoA
rinse & repeat
in mitochondria
Ketogenesis
Acetyl-CoA (x2)
Thiolase
Acetoacetyl CoA
HMG-CoA synthase
HMG-CoA
Fed State, Anabolism
(not in liver & RBC)
Ketolysis
Thiophorase (succinyl-CoA-3-keto-acid coenzyme transferase)
Acetone
HMG-CoA lyase
CO2
Tissues
Acetoacetate
D-β-hydroxybutyrate dehydrogenase
NADH + H+
NAD+
3-Hydroxybutyrate
15C unit
10C unit
5C unit
30C unit "Squalene"
Lanasterol
Cholesterol
Liver
Bile Salts
Steroid Hormones (ex. testosterone) (cortisol) (aldosterone)
Skeletal, Liver, kidney
Vitamin D
citrate transporter
Citrate
Citrate lyase
ATP
ADP + Pi
CoA-SH
Acetyl-CoA
Oxaloacetate
citrate
aspartate
glutamate-aspartate transporter (antiporter)
glutamate
universal nitrogen donor
Purine Acid Synthesis
malate
malate-α-ketoglutarate transporter (anti-shuttle)
2NADH + 2H+
NAD+
Pyruvate dehydrogenase complex
Acyl CoA
CoA
E3
E2
E1
2C-S
2C-TPP
CO2
NAD+
NADH + H+
FADH2
FAD
Citric Acid Cycle
enzymes
sex
ask
dehydrated
oceans
sound
delightful
fast
Dick
will
Not
arrows
will
comfort
comfort
go-carry
fast
will
Not
2C
6C
Can
H2O
all
6C
I
dehydrated
CO2
NADH
Keep
5C
CO2
NADH
Selling
4C
CoA-SH
GTP
sound
delightful
FADH2
sex
4C
4C
for
4C
Money
H2O
for
4C
doesn't
4C
officer
Dick
4C
sex
cytosol
intermembrane space
mitochondria
2H+
4H+
4H+
IV
III
Q
II
I
FAD
FADH2
NAD+
NADH2