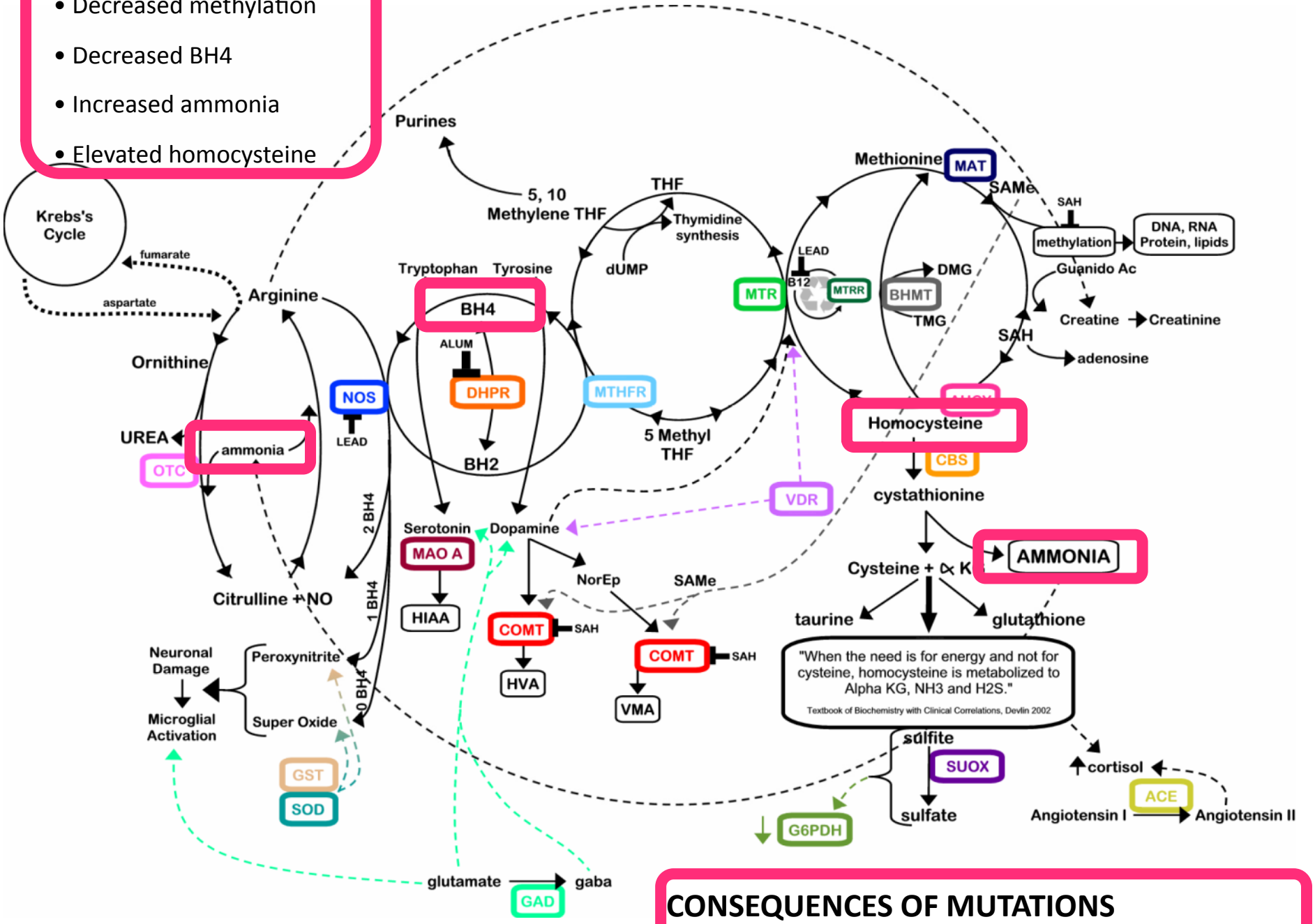
Crucial role of methylation

- Decreased methylation
- Decreased BH4
- Increased ammonia
- Elevated homocysteine



CONSEQUENCES OF MUTATIONS

Brief overview of potential consequences of variations in the genes in the methylation pathway including:

Increased Homocysteine

- Renal Failure
- Stroke
- Heart Attack
- Diabetes
- Alzheimer's disease
- Neural defects

Decreased Methylation

- Cancer
- Aging
- Cardiovascular disease
- Neurological issues
- Retroviral transmission
- Neural defects
- Down's syndrome
- **Psoriasis**
- **Memory issues**

Decreased BH4

- Diabetes
- Atypical phenylketonuria (PKU)
- Decreased dopamine levels
- Decreased serotonin levels
- Hypertension
- Atherosclerosis
- Decreased NOS
- Endothelial dysfunction

Elevated Ammonia

- Flapping tremors of extended arms
- Disorientation, brain fog
- Hyperactive reflexes
- Activation of NMDA receptors leading to glutamate excitotoxicity
- Tremor of the hands
- Paranoia, panic attacks
- Memory loss
- Hyperventilation (often associated with decreased CO2)
- CNS toxicity
- Alzheimer's disease