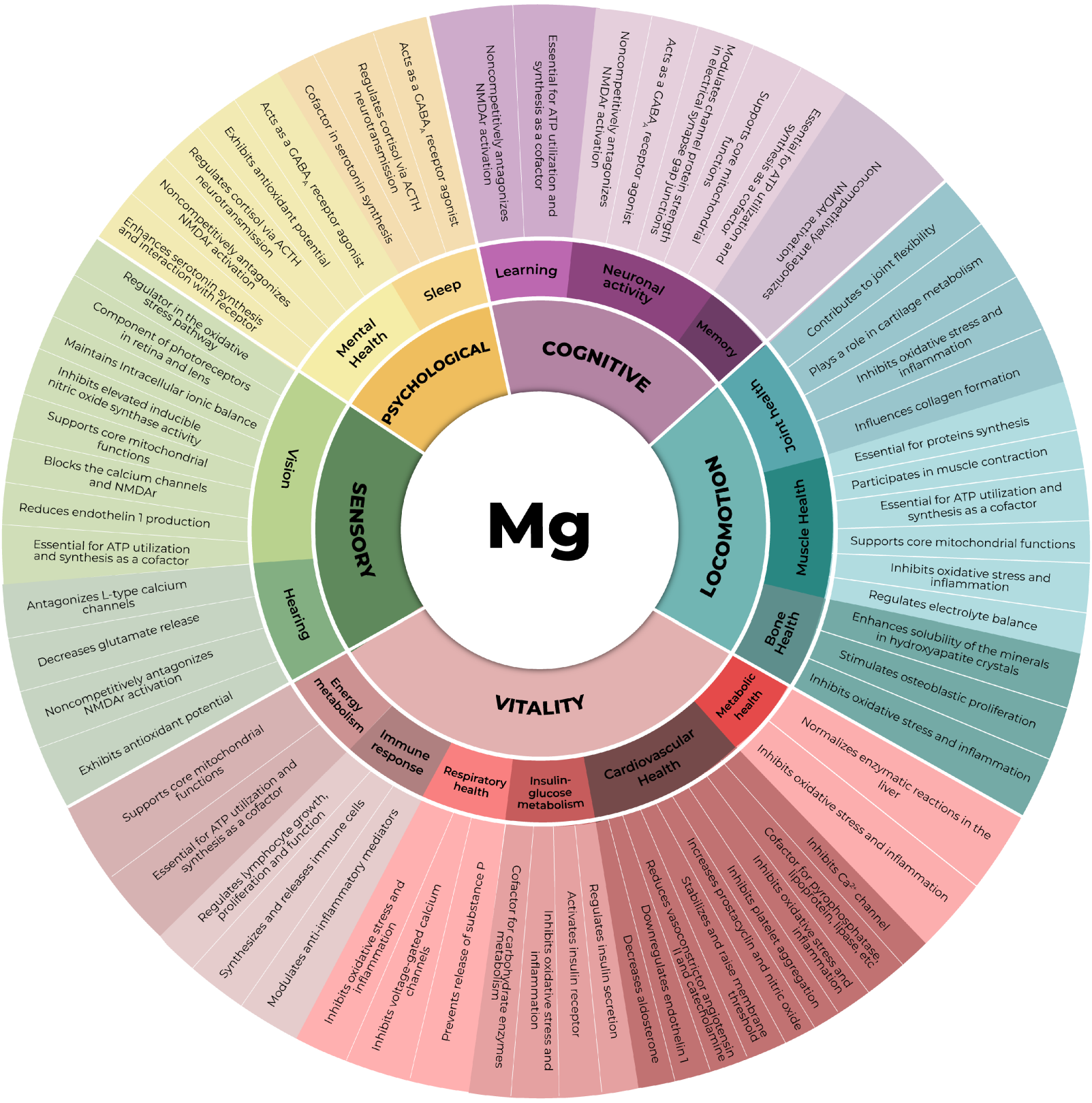
Mg
COGNITIVE
Learning
Neuronal activity
Memory
Essential for ATP utilization and synthesis as a cofactor
Noncompetitively antagonizes NMDAr activation
Acts as a GABA$_A$ receptor agonist
Noncompetitively antagonizes NMDAr activation
Modulates channel protein strength in electrical synapse gap junctions
Supports core mitochondrial function
Essential for ATP utilization and synthesis as a cofactor
Noncompetitively antagonizes NMDAr activation
PSYCHOLOGICAL
Sleep
Mental Health
Acts as a GABA$_A$ receptor agonist
Regulates cortisol via ACTH neurotransmission
Cofactor in serotonin synthesis
Acts as a GABA$_A$ receptor agonist
Exhibits antioxidant potential
Regulates cortisol via ACTH neurotransmission
Noncompetitively antagonizes NMDAr activation
Enhances serotonin synthesis and interaction with receptor
LOCOMOTION
Joint health
Muscle Health
Bone Health
Contributes to joint flexibility
Plays a role in cartilage metabolism
Inhibits oxidative stress and inflammation
Influences collagen formation
Essential for proteins synthesis
Participates in muscle contraction
Essential for ATP utilization and synthesis as a cofactor
Supports core mitochondrial functions
Inhibits oxidative stress and inflammation
Regulates electrolyte balance
Enhances solubility of the minerals in hydroxyapatite crystals
Stimulates osteoblastic proliferation
Inhibits oxidative stress and inflammation
SENSORY
Vision
Hearing
Regulator in the oxidative stress pathway
Component of photoreceptors in retina and lens
Maintains Intracellular ionic balance
Inhibits elevated inducible nitric oxide synthase activity
Supports core mitochondrial functions
Blocks the calcium channels and NMDAr
Reduces endothelin 1 production
Essential for ATP utilization and synthesis as a cofactor
Antagonizes L-type calcium channels
Decreases glutamate release
Noncompetitively antagonizes NMDAr activation
Exhibits antioxidant potential
VITALITY
Energy metabolism
Immune response
Respiratory health
Insulin-glucose metabolism
Cardiovascular Health
Metabolic health
Supports core mitochondrial functions
Essential for ATP utilization and synthesis as a cofactor
Regulates lymphocyte growth, proliferation and function
Synthesizes and releases immune cells
Modulates anti-inflammatory mediators
Inhibits oxidative stress and inflammation
Inhibits voltage-gated calcium channels
Prevents release of substance P
Cofactor for carbohydrate enzymes metabolism
Inhibits oxidative stress and inflammation
Activates insulin receptor
Regulates insulin secretion
Decreases aldosterone
Downregulates endothelin 1
Reduces vasoconstrictor angiotensin II and catecholamine
Stabilizes and raise membrane threshold
Increases prostacyclin and nitric oxide
Inhibits platelet aggregation
Inhibits oxidative stress and inflammation
Cofactor for pyrophosphatase, lipoprotein, lipase, etc
Inhibits Ca^{2+} channel
Inhibits oxidative stress and inflammation
Normalizes enzymatic reactions in the liver