

[illegible]

The diagram illustrates a complex network of biochemical pathways, primarily centered around energy metabolism and signaling. Key components include:

- Energy Metabolism:** Pathways involving ATP, ADP, AMP, and various nucleotides (GTP, GDP, CTP, CDP, UTP, UDP). Key enzymes like ATP synthase, ATPase, and various kinases/phosphatases are shown.
- Amino Acid Metabolism:** Pathways for the breakdown and synthesis of various amino acids, including Glu, Ala, Ser, Thr, Val, Leu, Ile, Phe, Tyr, Trp, Lys, Arg, His, Pro, Gly, and others. Key enzymes like aminotransferases, decarboxylases, and various synthetases are depicted.
- Nucleotide Metabolism:** Pathways for the synthesis and degradation of nucleotides, including purines (Ado, Ino, Guo, Xan) and pyrimidines (Urid, Cyt, Thy, Cyt). Key enzymes like nucleoside diphosphate kinase, nucleoside triphosphate kinase, and various synthetases are shown.
- Signaling Pathways:** Various signaling cascades involving second messengers like cAMP, cGMP, and IP3. Key enzymes like adenylyl cyclase, phospholipase C, and protein kinases are depicted.
- Other Pathways:** Includes pathways for fatty acid metabolism (e.g., fatty acid synthase, fatty acid oxidase), heme synthesis, and various other metabolic processes.

The diagram uses a color-coded system to represent different types of reactions or enzyme classes: red arrows for one category, blue arrows for another, and green arrows for a third. The labels for enzymes and metabolites are often abbreviated, following a common convention in biochemistry (e.g., ATPase, Glu, Ala, Ser, Thr, Val, Leu, Ile, Phe, Tyr, Trp, Lys, Arg, His, Pro, Gly, etc.).