Basic Global Metabolomics Analysis by Chemical Isotope Labeling LC-MS

Provided by TMIC-Li Node

Metabolite/Pathway Coverage

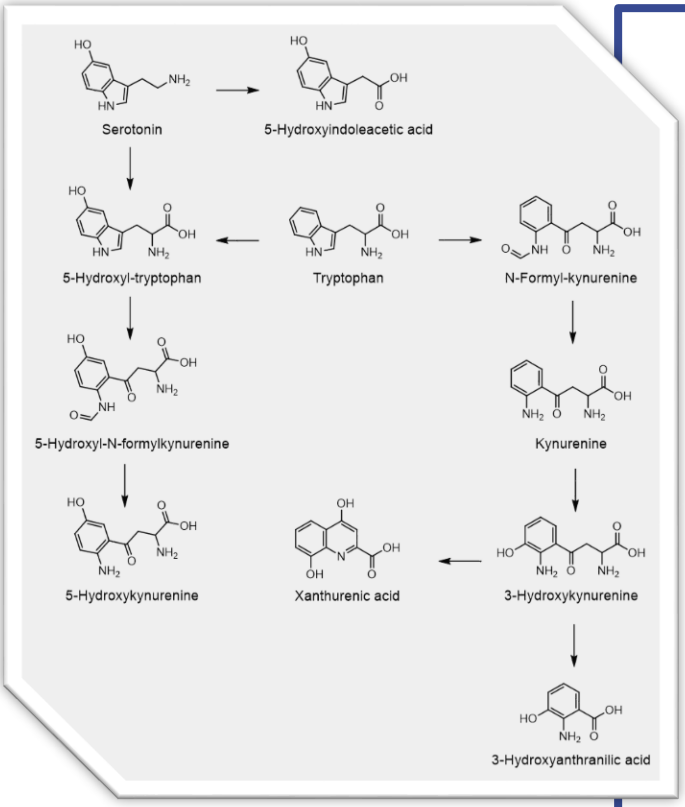
A total of 2000+ metabolite candidates with 300+ metabolites with identification, including:

- Dipeptides & Tripeptides (40+)
- Other Amino Acids and Derivatives (70+)
- Indole Derivatives (5)
- Essential Amino Acids (20)
- Dopamine Derivatives (5)
- Nucleobases and Derivatives (7)

The metabolites cover more than 70 pathways, including:

- Arginine and Proline Metabolism (19)
- Tryptophan Metabolism (16)
- Cysteine and Methionine Metabolism (14)
- Cyanoamino Acid Metabolism (13)
- Pyrimidine Metabolism (7)
- Phenylalanine Metabolism (7)
- beta-Alanine Metabolism (7)
- Tyrosine Metabolism (19)
- Glycine, Serine and Threonine Metabolism (15)
- Lysine Degradation (14)
- Arginine Biosynthesis (7)
- Histidine Metabolism (7)
- Alanine, Aspartate and Glutamate Metabolism (6)
- …….

Pathway Example



Tryptophan Metabolism

Significance

As an essential amino acids, in addition to be one of the building blocks for protein, tryptophan is also the obligatory component for production of many bioactive metabolites. Tryptophan metabolism, containing kynurenine pathway and serotonin pathway, is found to be a key hub for regulation of immunity, neuronal function and intestinal homeostasis, etc.

Coverage with Basic Analysis

- Tryptophan
- 5-Hydroxy-tryptophan
- Serotonin
- 5-Hydroxyindoleacetic acid
- 5-Hydroxy-N-formyl-kynurenine
- 5-Hydroxykynurenine
- 4,6-Dihydroxyquinoline
- Kynurenine
- 3-Hydroxykynurenine
- 4-(2-Aminophenyl)-2,4-dioxobutanoic acid
- Xanthurenic acid
- 4,8-Dihydroxyquinoline
- 2-Aminobenzoic acid
- N-Acetylindoxyl
- N-Methylserotonin