Researchers at the University of South Florida have developed a new approach against 5-aminolevulinate synthase (ALAS) via kinetic target-guided synthesis (TGS).

5-Aminolevulinate synthase is the first regulatory enzyme of the heme biosynthetic pathway in metazoa. It catalyzes the synthesis of aminolevullinic acid which is the first common precursor in the heme biosynthetic pathway. This makes ALAS a logical target for reducing porphyrin accumulation characteristic of non-curable porphyrias and certain hepatic and erythropoietic/blood disorders. An effective and readily available inhibitor of ALAS is presently not available.

USF scientists have discovered inhibitors against 5-aminolevulinate synthase. This was achieved via a kinetic target-guided synthesis that was extended to multi-fragment screening with increased throughput.

This invention provides novel molecules that are effective in treatment of diseases and metabolic disorders associated with 5-aminolevulinate synthase. It has the potential to treat heme biosynthesis disorder like porphyrias, hepatic disorders, and erythropoietic disorders.

**ADVANTAGES:**
- Effectively inhibits ALAS
- Treats heme biosynthesis disorders and other ALAS related diseases
- Easy synthesis and purification technique

**5-Aminolevulinate Synthase Inhibitors**

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