L5300	Mitochondrial Targeting Compound Library	64	cpds

The mitochondrion is a double-membrane-bound discrete organelle found in most eukaryotic organisms, generating most of the cell's supply of adenosine triphosphate (ATP) and controlling the cellular basal metabolic rate, called as the cell's powerhouses. In addition to supplying cellular energy, mitochondria are the major source of ROS (reactive oxygen species) that reflect the level of cellular oxidative stress and play an important role in mitochondria ROS signaling such as apoptosis, proliferation, and aging, etc. In addition, the fine modulation of mitochondrial calcium (Ca^{2+}) homeostasis plays a fundamental role in many of the processes involving this organelle. Mitochondrial Ca^{2+}accumulation is a tightly controlled process, in turn regulating functions as diverse as aerobic metabolism and induction of cell death. Mitochondrial DNA mutations may lead to many mitochondrial metabolic disorders, and are thought to contribute to aging by promoting apoptosis. Mitochondria therefore represent an attractive drug target for metabolic diseases, neurodegeneration, or hyperproliferative diseases (cancer). A number of pre-clinical and clinical data have shown that mitochondria as drug targets have great potential. Small molecule drugs or biologics can act on mitochondria through various pathways including ETC inhibition, OXPHOS uncoupling, mitochondrial Ca^{2+}modulation, and control of oxidative stress via decrease or increase of mitochondrial ROS accumulation.

Mitochondrial Targeting Compound Library from TargetMol, a unique collection of 64 compounds targeting mitochondria, can be used for research in mitochondrial medicine and related target study.

- A unique collection of 64 promising or approved mitochondria-targeted compounds including Idebenone, the only approved drug targeting mitochondria, for research in mitochondrial medicine;
- Targets include mitochondria related targets, such as ATPase, mitochondria-associated hexokinase, Bcl-2, NADP, etc. and inhibitors for the autophagy initiating factor, ULK1, also include other promising mitochondria-targeted compounds such as lonidamine, paclitaxel, etc;
- Bioactivity and safety confirmed by pre-clinical research and clinical trials;
- Detailed compound information with structure, target, activity, IC_{50} value, and biological activity description;
- Structurally diverse, medicinally active, and cell permeable;
- NMR and HPLC validated to ensure high purity and quality;