

# Mitochondrial-Targeted Reagents

The “powerhouse” of the cell plays important roles in energy production and function as well as homeostasis of calcium and many metabolic intermediates, apoptosis, cellular signaling, and innate immunity. Mitochondrial dysfunction is implicated with many common disorders, therefore chemical probes and potential therapeutics are important tools in dissecting the functions of this ubiquitous organelle. Unfortunately, the highly hydrophobic inner membrane and negative membrane potential make it difficult to selectively target mitochondria. Specialized chemical functionality including triphenylphosphonium groups or other lipophilic cationic molecules can be used for selective targeting. Shown below are reagents which target the mitochondria by means of a triphenylphosphonium moiety.

## AP39

Mitochondrially targeted hydrogen sulfide donor.<sup>1</sup> Displays protective effects in various pathological states including renal injury, Alzheimer’s, ischemia, and reperfusion injury.

**Product No: 10-3916** **5 mg** **25 mg**

## Mito-TEMPO

Mitochondria-targeted antioxidant. Partially prevents mitochondrial permeability transition pore opening, necrosis, and mitochondrial apoptosis after ATP depletion recovery.<sup>2</sup>

**Product No: 10-4100** **5 mg** **25 mg**

## Mitoquinone

Mitochondria-targeted antioxidant with cardio- and neuroprotective effects.<sup>3</sup> Protects pancreatic  $\beta$ -cells from oxidative stress.<sup>4</sup> Available in both the bromide and mesylate salt forms.

**Product No: 10-1363 Bromide** **5 mg** **25 mg**

**Product No. 10-3914 Mesylate** **5 mg** **25 mg**

## Mitoquinone mesylate (25 wt%)/ $\beta$ -Cyclodextrin complex

Easier to use and less deliquescent form of the mitochondrial antioxidant mitoquinone.<sup>4</sup> Water soluble and useable for animal studies.<sup>5-7</sup>

**Product No: 10-3915** **5 mg** **25 mg**

## Mito-Photo-DNP

Mitochondria-targeted, photo-activated protonophore.<sup>8</sup>

**Product No: 10-1580** **1 mg** **5 mg**

## Visomitin

Mitochondria-targeted antioxidant.<sup>9</sup>

**Product No: 10-3913** **5 mg** **25 mg**

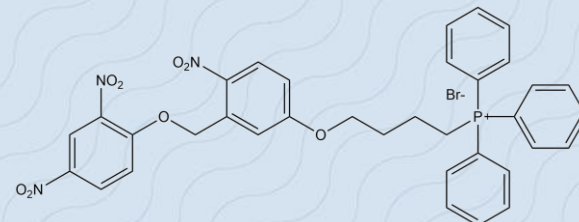
## Mito-Ionidamine

Ionidamine is an antiglycolytic drug with limited efficacy. Mito-Ionidamine is ionidamine conjugated to a triphenylphosphonium moiety via a decyl-linker which is an effective mitochondria-targeting group.<sup>10</sup> Mito-Ionidamine was shown to be 100-fold more potent than ionidamine.

**Product No: 10-5492** **5 mg** **25 mg**



Mitoquinone



Mito-Photo-DNP

## REFERENCES

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