

# **MKT-077**

# Catalog No: tcsc0003758

Available Sizes

Size: 1mg

Size: 5mg

Size: 10mg

Specifications

#### CAS No:

147366-41-4

#### Formula:

 $\mathsf{C}_{21}\mathsf{H}_{22}\mathsf{CIN}_3\mathsf{OS}_2$ 

Pathway: Metabolic Enzyme/Protease;Cell Cycle/DNA Damage

## **Target:**

HSP;HSP

Purity / Grade:

### Solubility:

10 mM in DMSO

#### **Alternative Names:**

FJ-776

#### **Observed Molecular Weight:**

432

# **Product Description**

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MKT-077 is a rhodacyanine dye and also a heat shock protein 70 (**Hsp70**) inhibitor which exhibits significant antitumor activity.

#### IC50 & Target: Hsp70<sup>[1]</sup>

*In Vitro:* MKT-077 is a rhodacyanine dye and also a heat shock protein 70 (Hsp70) inhibitor which exhibits significant antitumor activity. MKT-077 treatment (0.1 to 10  $\mu$ M dose ranges) for 48 hours can effectively decrease TT cell viability. MKT-077 treatment results in accumulation of cells in the G0/G1 phase in a dose-dependent manner, and also increases sub-G0/G1 phase population in TT cell culture in a dose-dependent manner. MKT-077 also downregulates cellular levels of the proliferation marker, Ki67, and the S-phase transcription factor, E2F-1, in TT and MZ-CRC-1 cells. Moreover, flow cytometry using different doses of MKT-077 reveales that TT cells can uptake and retain MKT-077 at significantly higher levels than MZ-CRC-1 cells<sup>[1]</sup>. MKT-077 has EC<sub>50</sub> values of 1.4±0.2 and 2.2±0.2  $\mu$ M against MDA-MB-231 and MCF7 breast cancer cells, respectivelyl<sup>[2]</sup>.

*In Vivo:* Systemic administration of MKT-077 significantly delays the growth of TT xenografts in mice throughout the treatment. At the end of MKT-077 treatment, it is found that tumor weights are about two-times less in MKT-077-treated group than in control group. MKT-077 treatment also results in weight loss and general toxicity in animals<sup>[1]</sup>. Results show that the succinate-induced, ADP-stimulated respiratory rate in mitochondria isolated from the liver of rats treated with a bolus i.v. injection of 15 mg MKT-077 1kg body weight each day for 5 days is significantly lower than that of untreated controls<sup>[3]</sup>.



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