Small Molecules

CAY10512

NF-κB pathway inhibitor; Inhibits NF-κB

Catalog # 73022

100 mg

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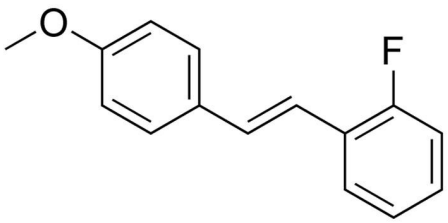
Product Description

CAY10512 is an analog of Resveratrol (Catalog #72862) that is 100-fold more potent (IC_{50} = 150 nM) at inhibiting NF-κB activation by TNF-α (Heynekamp et al.). Unlike Resveratrol and some other trans-stilbene analogs, CAY10512 does not exhibit antioxidant activity (up to 15 µM) in either the ferric reducing/antioxidant power (FRAP) or total radical antioxidant parameter (TRAP) assays (Heynekamp et al.). Like Resveratrol, CAY10512 also inhibits lipopolysaccharide-induced expression of COX-2 (Heynekamp et al.).

Molecular Name:	CAY10512
Alternative Names:	Not applicable
CAS Number:	139141-12-1
Chemical Formula:	$C_{15}H_{13}FO$
Molecular Weight:	228.3 g/mol
Purity:	≥ 97%
Chemical Name:	1-fluoro-2-[2-(4-methoxyphenyl) ethenyl]-benzene
Structure:	

Properties

Physical Appearance:	A crystalline solid
Storage:	Product stable at -20°C as supplied. Protect from prolonged exposure to light. Stable as supplied for 12 months from date of receipt.
Solubility:	· DMSO ≤ 8 mM · Absolute ethanol ≤ 2 mM For example, to prepare a 5 mM stock solution in DMSO, resuspend 100 mg in 87.6 mL of DMSO.

Prepare stock solution fresh before use. Information regarding stability of small molecules in solution has rarely been reported, however, as a general guide we recommend storage in DMSO at -20°C. Aliquot into working volumes to avoid repeated freeze-thaw cycles. The effect of storage of stock solution on compound performance should be tested for each application.

Compound has low solubility in aqueous media. For use as a cell culture supplement, stock solution should be diluted into culture medium immediately before use. Avoid final DMSO concentration above 0.1% due to potential cell toxicity.

Published Applications

IMMUNOLOGY
· Protects human islets from instant blood-mediated inflammatory response leading to improved survival of transplanted islets in in vitro tube model (Kanak et al.).
DISEASE MODELING
· Inhibits induction of NF-κB and subsequent upregulation of inflammatory microRNAs in Alzheimer disease model of human neuronal-glial cells in vitro (Lukiw).

References

Heynekamp JJ et al. (2006) Substituted trans-stilbenes, including analogues of the natural product resveratrol, inhibit the human tumor necrosis factor alpha-induced activation of transcription factor nuclear factor kappaB. J Med Chem 49(24): 7182–9.
Kanak MA et al. (2014) Alleviation of instant blood-mediated inflammatory reaction in autologous conditions through treatment of human islets with NF-κB inhibitors. Transplantation 98(5): 578–84.
Lukiw WJ. (2012) NF-κB-regulated micro RNAs (miRNAs) in primary human brain cells. Exp Neurol 235(2): 484–90.

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