For Research Use Only

(-)-Butin

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Catalog Number: CM12556

产品信息

Catalog Number:
CM12556

CAS号:
492-14-8

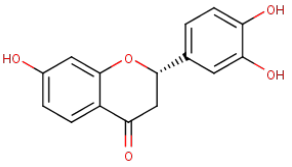
分子式:
$C_{15}H_{12}O_5$

主要靶点:
Akt|PI3K|Nrf2

主要通路:
细胞骨架|免疫与炎症|PI3K/Akt/mTOR信号通路

分子量:
272.25

溶解度:
DMSO:50 mg/mL (183.65 mM)



体外活性

The antioxidant function of manganese superoxide dismutase (Mn SOD) is important in preventing oxidative stress. While exposure to H2O2 reduced the expression of Mn SOD in Chinese hamster lung fibroblast (V79-4), the addition of Butin restored Mn SOD expression at both the mRNA and protein levels, resulting in increased Mn SOD activity. The transcription factor NF-E2-related factor 2 (Nrf2) regulates Mn SOD gene expression by binding to the antioxidant responsive element (ARE). Butin enhanced the nuclear translocation and ARE-binding activity of Nrf2, which was decreased by H2O2. The siRNA-mediated knockdown of Nrf2 attenuated Butin-induced Mn SOD expression and activity. Further, phosphatidylinositol 3-kinase (PI3K)/protein kinase B (PKB, Akt) contributed to the ARE-driven Mn SOD expression. Butin activated PI3K/Akt and exposure to either LY294002 (a PI3K inhibitor), Akt inhibitor IV (an Akt-specific inhibitor), or Akt siRNA suppressed the Butin-induced activation of Nrf2, resulting in decreased Mn SOD expression and activity. Finally, the cytoprotective effect of Butin against H2O2-induced cell damage was suppressed by the siRNA-mediated knockdown of Mn SOD[1]

描述

(-)-Butin has antioxidant activity, can protect cells against H2O2-induced apoptosis, oxidative DNA damage and oxidative mitochondrial dysfunction; it attenuates oxidative stress by activating Nrf2-mediated Mn SOD induction via the PI3K/Akt signaling pathway.

储存

Powder: -20°C for 3 years | In solvent: -80°C for 2 years

For technical support and original validation data for this product please contact
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