Inhibitors, Agonists, Screening Libraries

Data Sheet

Product Name: Miquelianin
Cat. No.: HY-13930
CAS No.: 22688-79-5
Molecular Formula: C_{12}H_{18}O_{13}
Molecular Weight: 478.36
Target: Others
Pathway: Others
Solubility: DMSO: ≥ 30 mg/mL

BIOLOGICAL ACTIVITY:
Miquelianin (Quercetin 3-0-glucuronide) is a metabolite of quercetin and a type of natural flavonoid.

**In Vitro:** Miquelianin shows an antioxidant effect in human plasma. At 50 μM, miquelianin suppresses the consumption of the three antioxidants lycopene, β-carotene and α-tocopherol significantly\(^1\). In *vitro* studies indicate that miquelianin is able to reach the central nervous system from the small intestine\(^2\). Miquelianin significantly reduces the generation of β-amyloid (Aβ) peptides by primary neuron cultures generated from the Tg2576 AD mouse model. It is also capable of interfering with the initial protein-protein interaction of Aβ1–40 and Aβ1–42 that is necessary for the formation of neurotoxic oligomeric Aβ species\(^3\). Treatment with 0.1 μM miquelianin suppresses ROS generation, cAMP and RAS activation, phosphorylation of ERK1/2 and the expression of HMOX1, MMP2, and MMP9 genes. Miquelianin suppresses invasion of MDA-MB-231 breast cancer cells and MMP-9 induction, and inhibits the binding of \[^{3}H\]-NA to b2-AR. Miquelianin may function to suppress invasion of breast cancer cells by controlling b2-adrenergic signaling, and may be a dietary chemopreventive factor for stress-related breast cancer\(^4\).

**In Vivo:** Miquelianin treatment, compared to vehicle-control treatment, significantly improves AD-type deficits in hippocampal formation basal synaptic transmission and long-term potentiation\(^3\). A flavonoid fraction obtained from a crude extract of Hypericum perforatum (St. John’s wort) is remarkably active in the forced swimming test. Miquelianin is one of the compound separated from the fraction\(^5\).

PROTOCOL (Extracted from published papers and Only for reference)

**Animal Administration:** Miquelianin is dissolved in deionized water.\(^5\) Rat: Miquelianin is administered orally using the gavage techniques. The rats are treated with 0.6 mg/kg miquelianin for 12 days. Antidepressant activity is performed using the Forced Swimming Test.\(^5\)

References: