

## 3-Feruloylquinic acid

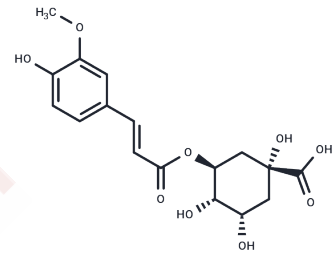
### Chemical Properties

CAS No. : 1899-29-2

Formula: C<sub>17</sub>H<sub>20</sub>O<sub>9</sub>

Molecular Weight: 368.34

Storage: Store at low temperature, Keep away from direct sunlight  
 Powder: -20°C for 3 years | In solvent: -80°C for 1 year  
*Actual storage temperature shall be subject to the COA.*



### Biological Description

Description	3-O-Feruloylquinic acid is a protease inhibitor, it exerts moderate inhibitory effect against AIV (H5N1) in vitro.
Targets(IC50)	NF-κB, Proteasome, NO Synthase, Antifection, COX, Interleukin
In vitro	Therefore, major CHAs were isolated from three major instant coffee brands, confirmed and quantified using HPLC and NMR spectroscopic methods. Then, their antioxidant activities and protective effects on H <sub>2</sub> O <sub>2</sub> -induced apoptosis in PC-12 cells were investigated using radical scavenging, mitochondrial membrane potential and caspase assays. In the coffee samples, three major CHAs (3-O-caffeoylquinic acid, 4-O-caffeoylquinic acid, 5-O-caffeoylquinic acid) and some minor CHAs (3-O-Feruloylquinic acid, 4-O-feruloylquinic acid, 5-O-feruloylquinic acid, 3,5-O-dicaffeoylquinic acid, 3,4-O-dicaffeoylquinic acid, and 4,5-O-dicaffeoylquinic acid) were detected. The three major CHAs were further isolated and their chemical structures were confirmed using NMR spectroscopic techniques. Also, the amounts of the three major CHAs were individually quantified using a HPLC method. At the concentration of 10 μM, all three major CHAs quenched DPPH and/or xanthine oxidase-generated radical species by 21-51% (P < 0.014). They also inhibited H <sub>2</sub> O <sub>2</sub> -induced mitochondrial membrane depolarization and caspase-9 activation by 27% (P < 0.034) and 50% (P < 0.05), respectively[1]

### Preparing Stock Solutions

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	<b>1mg</b>	<b>5mg</b>	<b>10mg</b>
1 mM	2.7149 mL	13.5744 mL	27.1488 mL
5 mM	0.543 mL	2.7149 mL	5.4298 mL
10 mM	0.2715 mL	1.3574 mL	2.7149 mL
50 mM	0.0543 mL	0.2715 mL	0.543 mL

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Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

### Reference

Isolation and quantification of major chlorogenic acids in three major instant coffee brands and their potential effects on H<sub>2</sub>O<sub>2</sub>-induced mitochondrial membrane depolarization and apoptosis in PC-12 cells. Food Funct. 2013 Nov;4(11):1632-8.

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