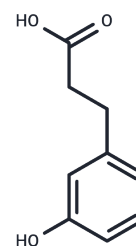


## 3-(3-Hydroxyphenyl)propionic Acid

## Chemical Properties

CAS No. :	621-54-5
Formula:	C <sub>9</sub> H <sub>10</sub> O <sub>3</sub>
Molecular Weight:	166.17
Appearance:	Solid
Storage:	Powder: -20°C for 3 years   In solvent: -80°C for 1 year



## Biological Description

Description	3-(3-Hydroxyphenyl)propionic Acid (m-Hydroxyphenylpropionic acid) is one of the major metabolites of ingested caffeic acid. It inhibited osteoclastogenesis and bone osteoclastic resorptive activity.
Targets(IC50)	Endogenous Metabolite
In vitro	3-(3-hydroxyphenyl) propionic acid (3-3-PPA) and hippuric acid (HA), had dose-dependent suppressive effects on osteoclastogenesis and osteoclast resorptive activity in Corning osteo-assay plates. Signaling pathway analysis showed that after pretreatment with HA or 3-3-PPA, RANKL-stimulated increase of osteoclastogenic markers, such as nuclear factor of activated T-cells, cytoplasmic 1 and matrix metalloproteinase 9 gene/protein expression were blunted. Inhibitory effects of HA and 3-3-PPA on osteoclastogenesis utilized RANKL/RANK independent mediators[1].
Cell Research	RAW264.7 cells or nonadherent bone marrow cells were cultured in 96-well plates (2x10 <sup>4</sup> cells/well) in the presence or absence of 50 ng/ml of RANKL. Cells were treated with HA at four different concentrations, 0.01x, 0.1x, 1x, and 10x, with 1x equivalent to concentration of 60 µg/dl of HA free form appeared in blood after 10% BB supplemental diet in rats. Four different concentrations of 3-3-PPA or 3-(4-hydroxyphenyl) propionic acid (3-4-PPA), 0.1x, 1x, 10x, and 100x, with 1x equivalent to concentration of 10 µg/dl of 3-3-PPA or 3-4-PPA free form appeared in blood after 10% BB supplemental diet in rats. After 4 days for RAW264.7 cell cultures and 5 days for bone marrow cell cultures, the cells were fixed with 4% paraformaldehyde and stained for tartrate-resistant acid phosphatase (TRAPase) activity using a TRAPase Staining Kit. TRAP-positive cells containing >3 nuclei in each well were counted as osteoclasts under an epifluorescent microscope[1].

## Solubility Information

Solubility	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 4 mg/mL (24.07 mM), Sonication is recommended. DMSO: 100 mg/mL (601.79 mM), Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
------------	--

### Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	6.0179 mL	30.0897 mL	60.1793 mL
5 mM	1.2036 mL	6.0179 mL	12.0359 mL
10 mM	0.6018 mL	3.009 mL	6.0179 mL
50 mM	0.1204 mL	0.6018 mL	1.2036 mL

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.

### Reference

Zhao H , Lazarenko O P , Jin-Ran Chen. Hippuric acid and 3-(3-hydroxyphenyl) propionic acid inhibit murine osteoclastogenesis through RANKL-RANK independent pathway[J]. Journal of Cellular Physiology, 2020, 235(1).  
Najmanová, Iveta, Pourová, Jana, Vopraválová, Marie, et al. Flavonoid metabolite 3-(3-hydroxyphenyl)propionic acid formed by human microflora decreases arterial blood pressure in rats[J]. Molecular Nutrition & Food Research, 2016, 60(5):981-991.

**Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins**

This product is for Research Use Only · Not for Human or Veterinary or Therapeutic Use

Tel:781-999-4286    E\_mail:info@targetmol.com    Address:34 Washington Street,Wellesley Hills,MA 02481