

# Certificate of Analysis

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**Product Name:** GC 1

**Catalog No.:** 4554

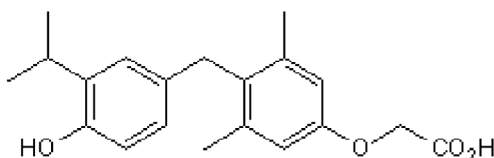
**Batch No.:** 12

CAS Number: 211110-63-3

IUPAC Name: 2-[4-[[4-Hydroxy-3-(1-methylethyl)phenyl]methyl]-3,5-dimethylphenoxy]acetic acid

## 1. PHYSICAL AND CHEMICAL PROPERTIES

**Batch Molecular Formula:** C<sub>20</sub>H<sub>24</sub>O<sub>4</sub>  
**Batch Molecular Weight:** 328.4  
**Physical Appearance:** Off White solid  
**Solubility:** DMSO to 50 mM  
 ethanol to 50 mM  
**Storage:** Store at -20°C  
**Batch Molecular Structure:**



## 2. ANALYTICAL DATA

**HPLC:** Shows 99.6 % purity  
**<sup>1</sup>H NMR:** Consistent with structure  
**Mass Spectrum:** Consistent with structure  
**Microanalysis:**

	Carbon	Hydrogen	Nitrogen
Theoretical	73.15	7.37	
Found	73.09	7.43	

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

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CAS Number: 211110-63-3

IUPAC Name: 2-[4-[[4-Hydroxy-3-(1-methylethyl)phenyl]methyl]-3,5-dimethylphenoxy]acetic acid

**Description:**

GC 1 is a thyromimetic; high affinity agonist at thyroid hormone receptor (TR)  $\beta$  and TR $\alpha$  receptors ( $K_D$  values are 67 and 440 pM respectively). Displays 5- and 100-fold greater potency than the endogenous agonist  $T_3$  in vitro at TR $\alpha_1$  and TR $\beta_1$  receptors respectively. Promotes reverse cholesterol transport in chow- and fat-fed mice. Induces proliferation of hepatocytes and pancreatic acinar cells in rats independent of prior tissue injury.

**Physical and Chemical Properties:**

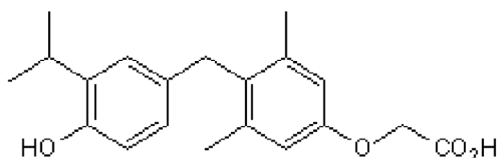
Batch Molecular Formula:  $C_{20}H_{24}O_4$

Batch Molecular Weight: 328.4

Physical Appearance: Off White solid

**Minimum Purity:**  $\geq 98\%$

**Batch Molecular Structure:**



**Storage:** Store at  $-20^{\circ}\text{C}$

**Solubility & Usage Info:**

DMSO to 50 mM

ethanol to 50 mM

**Stability and Solubility Advice:**

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a  $45\text{--}60^{\circ}\text{C}$  water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. \*Unless contradicted by product-specific protocols or instructions, our standard recommendations apply:

**SOLIDS:** Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

**SOLUTIONS:** We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at  $-20^{\circ}\text{C}$  or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

**References:**

**Columbano *et al*** (2006) The thyroid hormone receptor- $\beta$  agonist GC-1 induces cell proliferation in rat liver and pancreas. *Endocrinology* **147** 3211. PMID: 16574785.

**Johansson *et al*** (2005) Selective thyroid receptor modulation by GC-1 reduces serum lipids and stimulates steps of reverse cholesterol transport in euthyroid mice. *Proc.Natl.Acad.Sci. U S A* **102** 10297. PMID: 16006512.

**Chiellini *et al*** (1998) A high-affinity subtype-selective agonist ligand for the thyroid hormone receptor. *Chem.Biol.* **5** 299. PMID: 9653548.

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