



UNIVERSITAT DE  
BARCELONA

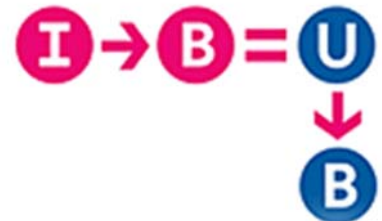


FACULTAT DE  
FARMÀCIA



Bosch i Gimpera  
UNIVERSITAT DE BARCELONA

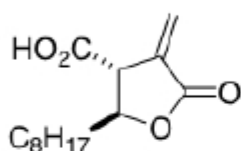
**IBUB**  
Institut de Biomedicina  
de la Universitat de Barcelona





**Dr. Jordi García's group** (School of Chemistry, University of Barcelona), in collaboration with the **Regulation of lipid metabolism in obesity and diabetes group** (School of Pharmacy and Food Sciences, University of Barcelona), offers bioactive chemical compounds to be used in the biochemical and medical research area.

Both groups are specialized in the organic synthesis and development of new paraconic acid analogues, as (+)- and (-)-C75 enantiomers and biochemical analysis.



**C75** is a chiral synthetic compound with structure of  $\alpha$ -methylene- $\gamma$ -butyrolactone similar to that found in natural paraconic acids. This product displays a broad range of biological activities with antibiotic, antitumor, antiviral and antiobesity properties.

Our laboratories are located at the Barcelona Knowledge Campus (BKC) of the University of Barcelona.

Web address <http://www.fbg.ub.edu/>



## Dept. Biochemistry and Physiology

School of Pharmacy and Food Sciences  
University of Barcelona  
Av. Joan XXII, 27-31, E-08028  
Barcelona, Spain

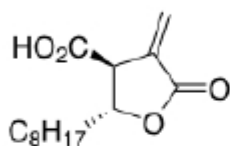
## Dept. Organic Chemistry

School of Chemistry  
University of Barcelona.  
Martí i Franquès, 1, E-08028  
Barcelona, Spain





Product	Size	Price
(+)-C75 enantiomer	1 mg	170 €
(2R,3S)-4-methylene-2-octyl-5-oxotetrahydrofuran-3-carboxylic acid	5 mg	780 €
	10 mg	1,390 €
CAS number 1234694-20-2	25 mg	3,040 €

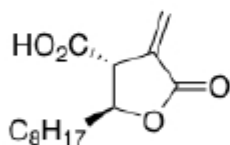


(+)

i

Product Information see below

Product	Size	Price
(-)-C75 enantiomer	1 mg	170 €
(2S,3R)-4-methylene-2-octyl-5-oxotetrahydrofuran-3-carboxylic acid	5 mg	780 €
	10 mg	1,390 €
CAS number 1234694-22-4	25 mg	3,040 €



(-)

i

Product Information see below

### Related publications:

*Novel effect of C75 on carnitine palmitoyltransferase I activity and palmitate oxidation. Biochemistry, 2006, 45, 4339-4350.*

*A versatile stereoselective approach to paraconic acids. Heterocycles, 2006, 67, 705-720.*

*C75 is converted to C75-CoA in the hypothalamus, where it inhibits carnitine palmitoyltransferase I and decreases food intake and body weight.. Biochemical Pharmacology, 2009, 77, E1084-1095.*

*Diferential pharmacologic properties of the two C75 enantiomers: (+)-C75 is a strong anorectic drug. (-)-C75 has antitumoral activity. Chirality, 2013, 5, 281-7.*

*Convenient synthesis of C75, an inhibitor of FAS and CPT1. RSC Advances, 2013, 3, 6564-71.*

*(-)-UB006: A new fatty acid synthase inhibitor and cytotoxic agent without anorexic side effects. Eur J Med Chem. 2017 May 5;131:207-221.*

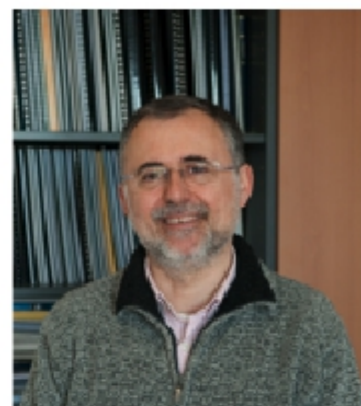




### ORGANIC SYNTHESIS GROUP

Led by Professor J. García, the organic synthesis group has more than ten years of experience in the stereoselective synthesis of paraconic acids and their derivatives.

Jordi García, PhD  
 Dept. of Organic Chemistry  
 School of Chemistry  
 University of Barcelona  
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 Barcelona, Spain  
 jordigarciagomez@ub.edu  
 Phone: +34 93 403 48 19



<http://www.go.ub.es/personals/jgarcia.htm>

### LIPID METABOLISM GROUP

Led by Professor D. Serra, the group has long experience in the use of C75 and C75 derivatives, *in vivo* and *in vitro* to treat obesity and tumors.

Dolors Serra, PhD  
 Dept. Biochemistry and Physiology  
 School of Pharmacy and Food Sciences  
 University of Barcelona  
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<http://www.ub.edu/betaoxi/>





## ORDERS

e-mail: [jordigarciagomez@ub.edu](mailto:jordigarciagomez@ub.edu) / [dserra@ub.edu](mailto:dserra@ub.edu)  
 Samples of 1 mg, 5 mg, 10 mg and 25 mg are available.  
 For pricing, see Products

Address:  
 Dept. Organic Chemistry  
 School of Chemistry  
 University of Barcelona  
 Martí i Franquès, 1, E-08028  
 Barcelona, Spain

<http://www.fbg.ub.edu/>



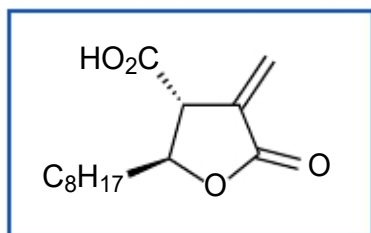
## TECHNICAL SUPPORT

For chemical aspects:  
 J. García, PhD  
[jordigarciagomez@ub.edu](mailto:jordigarciagomez@ub.edu)

For biochemical aspects:  
 D. Serra, PhD  
[dserra@ub.edu](mailto:dserra@ub.edu)



# Product Information



**CAS number:** 1234694-22-4

**Synonym:** (2*S*,3*R*)-4-methylene-2-octyl-5-oxotetrahydrofuran-3-carboxylic acid  
(2*S*,3*R*)-C75

**Molecular Formula:** C<sub>14</sub>H<sub>22</sub>O<sub>4</sub>

**Molecular Weight:** 254.32

**Purity** >98% (<sup>1</sup>H NMR). Free from (+) isomer

**Shipping:** by FEDEX at rt

**Storage:** (-)-C75 can be stored at -10 °C for 1 year hermetically closed without loss of activity. Alternatively, can be stored in a refrigerator (2-8 °C) for a few weeks.

**Solubility:** soluble in DMSO, MeOH, CH<sub>2</sub>Cl<sub>2</sub>, EtOH, pH > 9 water solutions.

**Formulation:** off-white solid

**Precautions and Disclaimer:** This product is for R&D use only. Not for administration to humans or veterinary use.

**Description:** (-)-C75 is a novel, potent inhibitor of fatty acid synthase (FAS) which has cytotoxic effect on tumour cell lines, without affecting either food consumption or body weight. In contrast, the racemic form of C75 produces hypophagia and weight loss in rodents, limiting its development as a potential anti-cancer drug. It has recently been demonstrated that anorexic effect of racemic C75 is due to the (+) isomer through its CoA derivative, acting as a carnitine palmitoyltransferase (CPT) 1 inhibitor.

## References:

- 1) Makowski, K., Mera, P., Paredes, D., Herrero, L., Ariza, X., Asins, G., Serra, Garcia, J., Hegardt, F.G. Differential pharmacologic properties of the two C75 enantiomers: (+)-C75 is a strong anorectic drug. (-)-C75 has antitumoral activity. *Submitted*
- 2) Mera P., Bentebibel A., Lopez-Vinas E., Cordente A.G., Gurunathan C., Sebastian D., *et al.* C75 is converted to C75-CoA in the hypothalamus, where it inhibits carnitine palmitoyltransferase 1 and decreases food intake and body weight. *Biochem. Pharmacol.* **2009**, *77*, 1084-95.
- 3) Bentebibel, A., Sebastian, D., Herrero, L., Lopez-Viñas, E., Serra, D., Asins, G., Gomez-Puertas, P., Hegardt, F.G. Novel effect of C75 on carnitine palmitoyltransferase I activity and palmitate oxidation. *Biochemistry* **2006**, *45*, 4339.

**Patent:** The pharmacological use of (-)-C75 is protected by the patent ES2654.1 P201131910

**Related products:** (+)-C75

## Material Safety Data

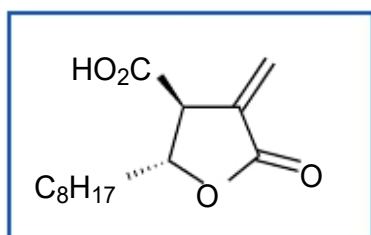
(-)-C75 should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get into eyes, on skin, or on clothing. Wash thoroughly after handling.

## Availability:

Samples of 1 mg, 5 mg, 10 mg and 25 mg are available. Contact us for prices and shipping details



# Product Information



**CAS number:** 1234694-20-2

**Synonym:** (2*R*,3*S*)-4-methylene-2-octyl-5-oxotetrahydrofuran-3-carboxylic acid  
(2*R*,3*S*)-C75

**Molecular Formula:** C<sub>14</sub>H<sub>22</sub>O<sub>4</sub>

**Molecular Weight:** 254.32

**Purity** >98% (<sup>1</sup>H NMR). Free from (-) isomer

**Shipping:** by FEDEX at rt

**Storage:** (+)-C75 can be stored at -10 °C for 1 year, hermetically closed without loss of activity. Alternatively, it can be stored in a refrigerator (2-8 °C) for a few weeks.

**Solubility:** soluble in DMSO, MeOH, CH<sub>2</sub>Cl<sub>2</sub>, EtOH, pH > 9 water solutions.

**Formulation:** off-white solid

**Precautions and Disclaimer:** This product is for R&D use only. Not for administration to humans or veterinary use.

**Description:** (+)-C75 is a novel, potent inhibitor of CPT1. After central and peripheral administration, (+)-C75 produces hypophagia and weight loss in rodents, suggesting that central inhibition of CPT1 is essential for the anorectic effect of C75. In contrast, the (-) form of C75 does not produce these effects but acts as a potent FAS inhibitor. It has been recently demonstrated that anorectic effect of racemic C75 is due to the (+) isomer through its CoA derivative, acting as a carnitine palmitoyltransferase (CPT) 1 inhibitor.

## References:

- 1) Makowski, K., Mera, P., Paredes, D., Herrero, L., Ariza, X., Asins, G., Serra, Garcia, J., Hegardt, F.G. Differential pharmacologic properties of the two C75 enantiomers: (+)-C75 is a strong anorectic drug. (-)-C75 has antitumoral activity. *Submitted*
- 2) Mera P., Bentebibel A., Lopez-Vinas E., Cordente A.G., Gurunathan C., Sebastian D., *et al.* C75 is converted to C75-CoA in the hypothalamus, where it inhibits carnitine palmitoyltransferase 1 and decreases food intake and body weight. *Biochem. Pharmacol.* **2009**, *77*, 1084-95.
- 3) Bentebibel, A., Sebastian, D., Herrero, L., Lopez-Viñas, E., Serra, D., Asins, G., Gomez-Puertas, P., Hegardt, F.G. Novel effect of C75 on carnitine palmitoyltransferase I activity and palmitate oxidation. *Biochemistry* **2006**, *45*, 4339.

**Patent:** The pharmacological use of (+)-C75 is protected by the patent ES2654.2 P201131911

**Related products:** (-)-C75

## Material Safety Data

(+)-C75 should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get into eyes, on skin, or on clothing. Wash thoroughly after handling.

## Availability:

Samples of 1 mg, 5 mg, 10 mg and 25 mg are available. Contact us for prices and shipping details