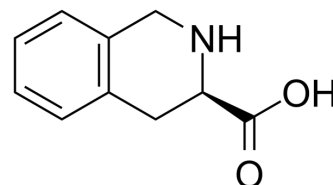


## (R)-1,2,3,4-Tetrahydro-3-isoquinolinecarboxylic acid

Cat. No.:	HY-13987
CAS No.:	103733-65-9
Molecular Formula:	C <sub>10</sub> H <sub>11</sub> NO <sub>2</sub>
Molecular Weight:	177.2
Target:	Others
Pathway:	Others
Storage:	<div>Powder</div> <div>-20°C 3 years</div> <div>4°C 2 years</div> <div>In solvent</div> <div>-80°C 2 years</div> <div>-20°C 1 year</div>



### SOLVENT & SOLUBILITY

#### In Vitro

H<sub>2</sub>O : 1 mg/mL (5.64 mM; ultrasonic and warming and heat to 60°C)  
DMSO : < 1 mg/mL (ultrasonic;warming;heat to 60°C) (insoluble or slightly soluble)

	Solvent Concentration	Mass	1 mg	5 mg	10 mg
Preparing Stock Solutions	1 mM		5.6433 mL	28.2167 mL	56.4334 mL
	5 mM		1.1287 mL	5.6433 mL	11.2867 mL
	10 mM		---	---	---

Please refer to the solubility information to select the appropriate solvent.

### BIOLOGICAL ACTIVITY

#### Description

(R)-1,2,3,4-Tetrahydro-3-isoquinolinecarboxylic acid is a constrained Phe analogue which can fold into a beta-bend and a helical structure, and to adopt a preferred side-chain disposition in the peptide. IC<sub>50</sub> value: Target: Three Tic-containing (Tic = 1,2,3,4-tetrahydroisoquinoline-3-carboxylic acid) model peptides were synthesized to assess the tendency of this constrained Phe analogue to fold into a beta-bend and a helical structure, and to adopt a preferred side-chain disposition. The results of the solution conformational analysis, performed by using Fourier transform infrared absorption and <sup>1</sup>H nuclear magnetic resonance, indicate that in chloroform the -Aib-D-Tic-Aib-, -(Aib)<sub>2</sub>-D-Tic-(Aib)<sub>2</sub>-, and -L-Pro-D-Tic- sequences fold into intramolecularly H-bonded forms to a great extent. An X-ray diffraction analysis on p-BrBz-(Aib)<sub>2</sub>-DL-Tic-(Aib)<sub>2</sub>-OMe monohydrate and p-BrBz-L-Pro-D-Tic-NHMe allows us to conclude that, while the pentapeptide methylester forms an incipient (distorted) 3(10)-helix, the dipeptide methylamide adopts a type-II beta-bend conformation. In both cases, the D-Tic side-chain conformation is D, gauche(-). The implications for the use of the Tic residue in designing conformationally restricted analogues of bioactive peptides are briefly discussed.

### REFERENCES

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[1]. Valle G, et al. Constrained phenylalanine analogues. Preferred conformation of the 1,2,3,4-tetrahydroisoquinoline-3-carboxylic acid (Tic) residue. Int J Pept Protein Res. 1992 Sep-Oct;40(3-4):222-32.

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**Caution: Product has not been fully validated for medical applications. For research use only.**

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