



MINISTERIO  
DE SANIDAD, SERVICIOS SOCIALES  
E IGUALDAD

**aecosan**  
agencia española  
de consumo,  
seguridad alimentaria y nutrición



**EUROPEAN UNION REFERENCE LABORATORY  
FOR MARINE BIOTOXINS**

# **List of Saxitoxin Group Toxins Reference Materials Commercially Available.**

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## 1. SAXITOXIN GROUP

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Website: <a href="http://www.nrc-cnrc.gc.ca/eng/solutions/advisory/crm/biotoxin/list_products.html">http://www.nrc-cnrc.gc.ca/eng/solutions/advisory/crm/biotoxin/list_products.html</a>				
<b>Name</b>	<b>Sales name</b>	<b>Concentration</b>	<b>Amount</b>	<b>Comments</b>
Saxitoxin dihydrochloride	CRM-STX-f	66.3 ± 1.4 µM	0.5 mL	Solution of saxitoxin dihydrochloride in 0.003M hydrochloric acid
Neosaxitoxin	CRM-NEO-c	65.6 ± 3.4 µM	0.5 mL	Solution of neosaxitoxin in 0.003M hydrochloric acid
Decarbamoylsaxitoxin	CRM-dcSTX-b	65 ± 1.8 µM	0.5 mL	Solution of decarbamoylsaxitoxin in 0.003M hydrochloric acid
Decarbamoylneosaxitoxin	CRM-dcNEO-c	29.4 ± 1.2 µM	0.5 mL	Solution of decarbamoylneosaxitoxin in 0.003M hydrochloric acid
Gonyautoxin-1 & gonyautoxin-4	CRM-GTX1&4-c	60.4 ± 3.1 µM GTX1 & 19.7 ± 1.6 µM GTX4	0.5 mL	Solution of a mixture of GTX1 & GTX4 in 0.003M hydrochloric acid
Gonyautoxin-2 & gonyautoxin-3	CRM-GTX2&3-c	114.2 ± 5.7 µM GTX2 & 43.4 ± 2.2 µM GTX3	0.5 mL	Solution of a mixture of GTX2 & GTX3 in 0.003M hydrochloric acid
Gonyautoxin-5	CRM-GTX5-b	65 ± 3 µM	0.5 mL	Solution of GTX5 in filtered, aqueous acetic acid (~17µM, pH5).
Decarbamoylgonyautoxin-2 & Decarbamoylgonyautoxin-3	CRM-dcGTX2&3-b	116 ± 4 µM dcGTX2 & 26.1 ± 0.9 µM dcGTX3	0.5 mL	Solution of a mixture of dcGTX2 & dcGTX3 in filtered, aqueous 0.003M hydrochloric acid. <i>Check the availability at their website.</i>
N-sulfocarbamoyl-gonyautoxins 2 & 3: C1 & C2	CRM-C1&2-b	113.4 ± 3.8 µM C1 & 33.9 ± 2.8 µM C2	0.5 mL	Solution of a mixture of C1&C2 in filtered, aqueous acetic acid (~17(µM, pH5)

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Name	Sales name	Concentration	Amount	Comments
Gonyautoxins 2 & 3	CRM-00-GTX2&3	22.2 ± 2.0 µg/g GTX2 8.2 ± 0.9 µg/g GTX3 Purity > 98 %	15 µg	Solution of a mixture of GTX2 & GTX3 in 0.003M hydrochloric acid (pH 2.53)
N-sulfocarbamoyl-gonyautoxins 2 & 3: C1 & C2	CRM-00-C1&2	40.1 ± 3.3 µg/g C1 & 11.5 ± 1.0 µg/g C2 Purity > 99 %	25 µg	Solution of a mixture of C1&C2 in aqueous acetic acid (25.10 <sup>-6</sup> M, pH 4.92)
Decarbamoylgonyautoxins-2&3	CRM-00-dcGTX2&3	35.1 ± 3.2 µg/mL dcGTX2 8.0±0.9 µg/mL dcGTX3 Purity ≥ 98 %	20 µg	Solution of a mixture of dcGTX2 & dcGTX3 in 0.003M hydrochloric acid (pH 2.41)
Gonyautoxin-5	00-GTX5	21.0 ± 1.6 µg/mL Purity > 94 %	10 µg	Solution of GTX5 in aqueous acetic acid (25 µM, pH 4.96) Not certified
Decarbamoylsaxitoxin	00-dcSTX	19.7 ± 1.5 µg/mL Purity > 98 %	10 µg	Solution of dcSTX in 0.003M hydrochloric acid (pH 2.6) Not certified
Neosaxitoxin	00-NEO	20.0 ± 1.7 µg/ML Purity > 98 %	10 µg	Solution of NEO in 0.003M hydrochloric acid (pH 2.6) Not certified

<b>NIST. National Institute of Standards and Technology</b> Material Measurement Laboratory. Standard Reference Materials. NIST, 100 Bureau Drive, Stop 2300, Gaithersburg, MD 20899-2300. USA Tel.: 301 975-2200, fax 301 948-3730. Email: <a href="mailto:srminfo@nist.gov">srminfo@nist.gov</a> / Website: <a href="http://www.nist.gov/srm/">http://www.nist.gov/srm/</a> <a href="https://www-s.nist.gov/srmors/view_detail.cfm?srm=8642">https://www-s.nist.gov/srmors/view_detail.cfm?srm=8642</a>				
Name	Sales name	Concentration	Amount	Comments
FDA Saxitoxin dihydrochloride Solution	RM 8642	103 ± 4 µg/g	10 x 1.2 mL	Solution of saxitoxin containing a hydrochloric acid concentration of 5mM in 20% ethanol in water (volume fraction). <i>Check the availability at their website.</i>

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Name	Sales name	Concentration	Amount	Comments
Pacific oyster PSP toxin matrix CRM	PO PST CRM 1101	668 ± 63 µg STX di-HCl equivalents/kg	5.7 g	<p>This material contains:</p> <p><u>Toxins certified</u></p> <p>STX: 0.22 ± 0.04 µMol/Kg                      GTX4: 0.33 ± 0.07 µMol/Kg                      GTX3: 0.23 ± 0.03 µMol/Kg                      GTX2: 0.20 ± 0.03 µMol/Kg                      GTX1: 0.41 ± 0.10 µMol/Kg                      NEO: 0.64 ± 0.11 µMol/Kg                      C1: 0.66 ± 0.18 µMol/Kg                      C2: 0.74 ± 0.12 µMol/Kg</p> <p><u>Other toxins non-certified</u></p> <p>GTX5 or B1: Traces                      dcGTX2: 0.08 µMol/Kg                      dcGTX3: 0.01 µMol/Kg</p>

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Name	Sales name	Concentration	Amount	Comments
STX	—	—	—	—
GTX	—	—	—	—