

List of Saxitoxin Group Reference Materials Commercially Available

European Union Reference Laboratory for Marine Biotoxins (EURLMB)
CITEXVI (Ciudad Tecnológica de Vigo)
Fonte das Abelleiras, 4
Campus Universitario de Vigo. As Lagoas-Marcosende
36310 Vigo (Spain)

E-mail: eurlmb@aesan.gob.es <http://www.eurlmb.org>

List of Saxitoxin Group Reference Materials Commercially Available

1. SAXITOXIN GROUP

BlueBioTech International GmbH (Mikroalgen Biotechnologie) Rudolf-Diesel-Straße 4, D-24568 Kaltenkirchen. Germany Tel.: +49 (0)41917231-0 / Fax: +49 (0)4191 7231-26 Email: info@bluebiotech.de Website: http://www.bluebiotech.de				
Name	Sales Name	Concentration	Amount	Comments
STX	—		—	—
GTX	—		—	—

Centre for environment, fisheries and aquaculture science (CEFAS) The Nothe, Barrack Road, Weymouth, Dorset, DT4 8UB, United Kingdom Tel.: +44 (0) 1305 206600 Fax.: +44 (0) 1305 206601 Email: cst@cefass.co.uk Website: https://www.cefass.co.uk/services/laboratory-services-and-analysis/reference-materials-and-proficiency-testing/				
Name	Sales Name	Concentration	Amount	Comments
Pacific oyster PSP toxin matrix CRM	PO PST CRM 1101	668 ± 57 µg STX di-HCl equivalents/kg	5.7 g	This material contains: Toxins certified STX: 0.22 ± 0.02 µMol/Kg GTX4: 0.33 ± 0.05 µMol/Kg GTX3: 0.23 ± 0.02 µMol/Kg GTX2: 0.20 ± 0.02 µMol/Kg GTX1: 0.41 ± 0.05 µMol/Kg NEO: 0.64 ± 0.09 µMol/Kg C1: 0.66 ± 0.15 µMol/Kg C2: 0.74 ± 0.09 µMol/Kg Other toxins non-certified GTX5 or B1: Traces dcGTX2: 0.08 µMol/Kg dcGTX3: 0.01 µMol/Kg

List of Saxitoxin Group Reference Materials Commercially Available

European Commission – Directorate General Joint Research Centre Directorate F - Health, Consumers and Reference Materials Reference - Materials Unit Retieseweg 111, 2440 Geel, Belgium Tel. +32 (0)14 571 705 Fax: +32 (0)14 590 406 E-mail: JRC-RM-DISTRIBUTION@ec.europa.eu // Website: https://crm.jrc.ec.europa.eu/				
Name	Sales Name	Concentration	Amount	Comments
Saxitoxin in acetic acid	BCR-663	9.8 ± 1.2 mg/kg	1 mL	Sales unit: vial
Mussel Tissue	BCR-543	Saxitoxin-2HCl <0.07mg/kg	15 g	Is available in heat-sealed laminate sachets containing about 15 g of material each
		Saxitoxin-2HCl (if enriched with BCR-663) 0.48 ± 0.06mg/kg dc-saxitoxin <0.04mg/kg		

Laboratorio CIFGA S.A. Av. Benigno Rivera 56, 27003, Lugo, Spain - Tel.: (+34) 982 816 715 Email: info@cifga.com / Website: http://www.cifga.es/				
Name	Sales Name	Concentration	Amount	Comments
Saxitoxin	CRM-00-STX	20.3 ± 1.3 µg/g Purity > 97 %	10 µg	Amber glass vial (approx. 0.5 ml) Liquid. Aqueous [HCl] = 3 mM, pH = 2.46
Gonyautoxins 2&3	CRM-00-GTX2&3	22.2 ± 1,5 µg/g GTX2 8.2 ± 0.6 µg/g GTX3 Purity ≥ 97 %	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 ± 2.4 µg/g C1 & 11.5 ± 0.9µg/g C2 Purity ≥ 99 %	25 µg	Solution of a mixture of C1&C2 in aqueous acetic acid (25.10 ⁻⁶ M, pH 4.92)
N-sulfocarbamoyl-gonyautoxins 1&4	CRM-00-C3&C4	12.6 ± 0.9 µg/g [C3] 3.35 ± 0.32) µg/g [C4] Purity ≥ 97%	8 µg	Amber glass vial (approx. 0.5 ml) Liquid. Aqueous [AcOH] = 25·10 ⁻⁶ M

List of Saxitoxin Group Reference Materials Commercially Available

Decarbamoylgonyautoxins-2&3	CRM-00-dcGTX2&3	35.1 ± 1.9 µg/g dcGTX2 8.0±0.9 µg/g dcGTX3 Purity ≥ 97 %	20 µg	Solution of a mixture of dcGTX2 & dcGTX3 in 0.003M hydrochloric acid (pH 2.41)
Gonyautoxin-5	CRM-00-GTX5	18.1 ± 1.2 µg/g Purity > 96 %	10 µg	Solution of GTX5 in aqueousacetic acid (25 µM, pH 5.00)
Decarbamoylsaxitoxin	CRM-00-dcSTX	19.5 ± 1.7 µg/g Purity ≥ 99 %	10 µg	Solution of dcSTX in 0.003M hydrochloric acid (pH 2.6)
Neosaxitoxin	CRM-00-NEO	20.3 ± 1.2 µg/g Purity ≥ 99 %	10 µg	Solution of NEO in 0.003M hydrochloric acid (pH 2.62)
Decarbamoylneosaxitoxin	CRM-00-dcNEO	9.1 ± 0.5 µg/g Purity: ≥ 99	5 µg	Amber glass vial (approx. 0.5 ml) Liquid. Aqueous [HCl] = 3 mM, pH = 2.5
Gonyautoxins 1 & 4	CRM-00-GTX1&4	[GTX1] = (27.3± 1.6)µg/g [GTX4] = (7.3 ± 0.6)µg/g Purity >99%	15 µg	Amber glass vial (approx. 0.5 ml) Liquid. Aqueous [HCl] = 0.003 M, pH = 2.50
Gonyautoxin 6	CRM-00-GTX6	[GTX6] = (10.0 ±0.5)µg/g Purity >96%	5 µg	Amber glass vial (approx. 0.5 ml) Liquid. Aqueous [AcOH] = 25 µM, pH = 4.85

National Institute of Standards and Technology (NIST)

Material Measurement Laboratory. Standard Reference Materials.

NIST, 100 Bureau Drive, Stop 2300, Gaithersburg, MD 20899-

2300. USA Tel.: (301) 975-2200 Option 1 , Fax (301) 948-3730.

Email: srminfo@nist.gov /

Website: <http://www.nist.gov/srm/> https://www-s.nist.gov/srmors/view_detail.cfm?srm=8642a

Name	Sales Name	Concentration	Amount	Comments
FDA Saxitoxin Dihydrochloride Solution	RM 8642a	100 µg/g	5 x 1.2 mL	Solution of saxitoxin containing a hydrochloric acid concentration of 5mM in 20% ethanol in water (volume fraction). Check the availability at their website.

List of Saxitoxin Group Reference Materials Commercially Available

National Research Council Canada, NRC-CNRC 1411 Oxford Street. Halifax, Nova Scotia B3H 3Z1 Canada Tel.: 1-902 426-8281 / Fax: 1-902 426-5426 Email: CRM-MRCBiotoxin-Biotoxines@nrc-cnrc.gc.ca // CRM-MRCHalifax@nrc-cnrc.gc.ca Website: https://nrc.canada.ca/en/certifications-evaluations-standards/certified-reference-materials/list				
Name	Sales Name	Concentration	Amount	Comments
Saxitoxin dihydrochloride	CRM-STX-g	----	0.5 mL	
Neosaxitoxin	CRM-NEO-d	65.1 µmol/L	0.5 mL	Solution of neosaxitoxin in 0.5mM hydrochloric acid
Decarbamoylsaxitoxin	CRM-dcSTX-c	---	0.5 mL	Dissolved in dilute hydrochloric acid
Decarbamoylneosaxitoxin	CRM-dcNEO-d	30.4 µmol/L	0.5 mL	Solution of decarbamoylneosaxitoxin in 0.05mM hydrochloric acid
Gonyautoxin-1 & Gonyautoxin-4	CRM-GTX1&4-d	57.2 µmol/L GTX1 & 18.0 µmol/L GTX4	0.5 mL	Solution of a mixture of GTX1 & GTX4 in 0.05mM hydrochloric acid
Gonyautoxin-2 & Gonyautoxin-3	CRM-GTX2&3-d	146.1 µmol/L GTX2&3	0.5 mL	Solution of a mixture of GTX2 & GTX3 in 0.05mM hydrochloric acid
Gonyautoxin-5	CRM-GTX5-d	----	0.5 mL	Dissolved in dilute acetic acid
Decarbamoylgonyautoxin-2 & Decarbamoylgonyautoxin-3	CRM-dcGTX2&3-c	100.1 µM dcGTX2 29.4 µM dcGTX3	0.5 mL	Solution of a mixture of dcGTX2 & dcGTX3 in filtered, aqueous 0.05mM hydrochloric acid.
N-sulfocarbamoyl-gonyautoxins 2&3:C1&C2	CRM-C1&2-c	-----	0.5 mL	Each ampoule contains approximately 0.5 mL of a solution of C1&2 dissolved in dilute acetic acid..
Gonyautoxin-6-b	CRM-GTX6-b	----	0.5 mL	Each ampoule contains approximately 0.5 mL of a solution of GTX6 dissolved in filtered, deionized water adjusted to pH 6 with acetic acid.
Saxitoxin and related analogues	CRM-PSP-Mus	----	~8 g	Each bottle contains ~8 g of mussel homogenate. Certified values are assigned for saxitoxin (STX), gonyautoxin-2 (GTX2) and gonyautoxin-3 (GTX3),

List of Saxitoxin Group Reference Materials Commercially Available

Novakits 40 Boulevard Jean Ingres – 44100 NANTES Tél : 09 61 58 14 40 – Fax : 02 40 37 57 95 Email: info@novakits.com Website: www.novakits.com				
Name	Sales Name	Concentration	Amount	Comments
N-Sulfocarbamoyl-Gonyautoxin-1 et 4 purified (C3 & C4):	STD-C3&4	C3:51+/- 2.5 µg/ml C4: 23+/- 2.µg/ml	0.5 ml	
N-sulfocarbamoyle gonyautoxine 2 et 3 (C1&2)	NRC-CRM-C1&2	C1 113,4 µM – C2 33,9 µM	0,5 ml	
Décarbamoyle gonyautoxine 2 et 3 (dcGTX2&3)	NRC-CRM-DGTX2&3	dcGTX2 116 µM – dcGTX3 26,1 µM	0,5 ml	
Décarbamoyle néo-saxitoxine (dcNEO)	NRC-CRM-DNEO	29,4 µM	0,5 ml	
Décarbamoyle saxitoxine (dcSTX)	NRC-CRM-DCSTX	65 µM	0,5 ml	
Gonyautoxine 1 et 4 (GTX1&4)	NRC-CRM-GTX1&4	GTX1 60,4 µM – GTX4 19,7 µM	0,5 ml	
Gonyautoxine 2 et 3 (GTX2&3)	NRC-CRM-GTX2&3	GTX2 114,2 µM – GTX3 43,4 µM	0,5 ml	
Gonyautoxine-5 (GTX5)	NRC-CRM-GTX5	55,7 µM	0,5 ml	
Néo-saxitoxine (NEO)	NRC-CRM-NEO	65,6 µM	0,5 ml	
Saxitoxine dihydrochloride	NRC-CRM-STX	66,3 µM	0,5 ml	

Sigma Aldrich Web page: http://www.sigmaaldrich.com				
Name	Sales Name	Concentration	Amount	Comments
Neosaxitoxin solution	41619	20 µg/g in 3 mmol/l	0.5 mL	20 µg/g in hydrochloric acid (nominal concentration)
Neosaxitoxin-15N7 solution	41206	10 µg/g in 3 mmol/l	0.5 mL	10 µg/g in hydrochloric acid (nominal concentration)
Saxitoxin-15N7 dihydrochloride solution	30929	10 µg/g in 3 mmol/l	0.5 mL	10 µg/g in hydrochloric acid (nominal concentration)
Mussel (dc-saxitoxin)	BCR543		15G	Certified for the analytes. Saxitoxin dihydrochloride, dc-Saxitoxin dihydrochloride. More information see above