

Elenco dei materiali di riferimento/standard (ficotossine) commercialmente disponibili

(Il LNR-BM dichiara l'insussistenza di conflitto di interesse, anche solo potenziale, con nessuna delle Ditte elencate)

### BIOTOSSINE MARINE REGOLAMENTATE

MATERIALI DI RIFERIMENTO/STANDARD		FORNITORI
AZASPIRACID GROUP	AZA1; AZA2; AZA3; AZA mussel toxins; AZA123 (mixed calibration);	NRC-Canada
	AZA1; AZA2; AZA3; AZA5; AZA4	Laboratorio CIFGA
	AZA1; AZA2; AZA3	Santa Cruz Biotechnology, Inc.
	AZA1; AZA2; AZA3; Mussels tissue;	Novakits
	AZA1; AZA2; AZA3; Mussel tissue with: AZA1, AZA2, AZA3;	Lab Service Analytica
DOMOIC ACID GROUP	Domoic Acid	Sigma-Aldrich/Merck
	Domoic Acid	Laboratorio CIFGA
	Domoic Acid; Domoic acid mussel tissue;	NRC-Canada
	Domoic Acid	Enzo Life Sciences, Inc.
	Acide domoique mussel tissue; Domoic Acid	Novakits
	Mussel tissue with domoic acid; DA;	Lab Service Analytica
	Domoic Acid	Axxora
	Domoic Acid; isodomoic Acid G	Biocrick
Domoic Acid	Cayman Chemical	
MULTIPLE MARINE TOXIN	CRM-FDMT1 miscela di: (DA+5'-epi-DA), (AZA1+37-epi-AZA-1), (AZA2+37-epi-AZA-2), (AZA3+37-epi-AZA-3), OA, DTX1, DTX2, YT), PTX2, (13-desMe-SPX C);	NRC-Canada
	Mussel matrix with DSP toxins: OA, DTX1, DTX3	Laboratorio CIFGA
	Mussel tissue with: OA, DTX1, DTX2, Domoic Acid	Lab Service Analytica
NEGATIVE CONTROL: BLANK MUSSEL REFERENCE MATERIAL	Mus Zero	NRC-Canada
	Mussel tissue	Novakits
OKADAIC ACID GROUP	Okadaic acid; InSolution™ Okadaic acid; Okadaic acid, Ammonium salt; Okadaic acid, Potassium salt; Okadaic acid, Sodium salt; Okadaic acid Prorocentrum;	Sigma-Aldrich/Merck
	Okadaic acid; Okadaic acid, Ammonium salt; Okadaic acid, Sodium salt; Okadaic acid, Potassium salt; Okaic acid, methyl ester; Okadaic acid, C8-diol ester	Enzo Life Sciences, Inc.
	Okadaic acid; 7-O-Palmitoyl Okadaic Acid; DTX1; DTX2; Mussel matrix DSP toxins (OA, DTX1, DTX3)	Laboratorio CIFGA
	Okadaic acid; Okadaic acid, Ammonium salt; Okadaic acid, Sodium salt; Okadaic acid, C8-diol ester; Okaic acid, methyl ester; Okadaic acid potassium salt; Okadaic acid, Sodium salt; Okadaol; Okadaic acid antibody;	Axxora
	Okadaic acid; Okadaic acid, DTX-1, DTX-2; DTX-1; DTX-2; Mussel tissue Okadaic acid	NRC-Canada

## ELENCO MATERIALI DI RIFERIMENTO

	Okadaic acid, free acid; Okadaic acid, Ammonium salt; Okadaic acid, Sodium salt; Okadaic acid, Potassium salt;	LC Laboratories
	Okadaic acid potassium salt from Prorocentrum concavum; Okadaic acid ammonium salt from Prorocentrum concavum; Okadaic acid sodium salt from Prorocentrum concavum; Okadaic acid solution; Okadaic acid, Potassium salt; Okadaic acid, Prorocentrum sp.;	Sigma-Aldrich/Merck
	Acide okadaïque; Dinophysis toxine 1 (DTX1); Dinophysis toxine 2 (DTX2);	Novakits
	DTX1; DTX2; OA;	Lab Service Analytica
	Mussel matrix with DSP toxins (OA; DTX-1; DTX-3)	Laboratorio CIFGA
SAXITOXIN GROUP	Pacific oyster PSP toxin matrix CRM;	CEFAS
	Saxitoxin in acetic acid; Mussel (STX+dc-saxitoxin);	EC – Directorate General Joint Research Centre
	Saxitoxin; Gonyautoxins 2&3 (GTX 2&3); N-sulfocarbamoyl- gonyautoxins 2&3 (C1&C2); Decarbamoylgonyautoxins- 2&3 (dcGTX 2&3); Gonyautoxin-5 (GTX5); Decarbamoylsaxitoxin (dcSTX); Neosaxitoxin (NEO); Decarbamoylneosaxitoxin (dcNEO); Gonyautoxins 1&4 (GTX 1&4); Gonyautoxin 6 (GTX6); N-sulfocarbamoyl gonyautoxins 1&4 (C3&C4)	Laboratorio CIFGA
	FDA SaxitoxinDihydrochloride Solution;	NIST
	Saxitoxindihydrochloride (STX); Neosaxitoxin (NEO); Decarbamoylsaxitoxin (dcSTX); Decarbamoylneosaxitoxin (dcNEO); Gonyautoxin 1&4 (GTX 1&4); Gonyautoxin 2&3 (GTX 2&3); Gonyautoxin 5 (GTX5); Decarboylgonyautoxin 2&3 (dcGTX2&3); N-sulfocarbamoyl-gonyautoxins 2&3 (C1&C2); Gonyautoxin 6 (GTX6) PSP mussel tissue (STX, GTX2, GTX3)	NRC-Canada
	N-Sulfocarbamoyl-Gonyautoxin-1 et 4 purified (C3&C4); N-Sulfocarbamoyl-Gonyautoxin-2 et 3 purified (C1&C2); Decarbomoyl gonyautoxin 2 et 3 (dcGTX2&3); Decarbamoyle neo-saxitoxine (dcNEO); <b>Decarbamoyle saxitoxine (dcSTX)</b> Gonyautoxine 1 et 4 (GTX 1&4); Gonyautoxine 2 et 3 (GTX 2&3); Gonyautoxine 5 (GTX5); Neosaxitoxin (NEO); Saxitoxine diHydrochloride;	Novakits
	C1&C2; Decarbamoyl-gonyautoxin 2&3 (dcGTX2&3); dcNEO; dcSTX; GTX-1&4; GTX-2&3; GTX5; GTX6; NEO; STX;	Lab Service Analytica
	Saxitoxin in acetic acid; Saxitoxin dihydrochloride solution; Mussel (dc-saxitoxin); Saxitoxin- <sup>15</sup> N <sub>7</sub> dihydrochloride solution; Neosaxitoxin solution (neoSTX); Neosaxitoxin- <sup>15</sup> N <sub>7</sub> solution; N-Sulfocarbamoylsaxitoxin solution (GTX5); GTX-6 solution	Sigma-Aldrich/Merck
	Saxitoxins; [ <sup>15</sup> N]7 Saxitoxin dihydrochloride;	Eurofins Abraxis

## ELENCO MATERIALI DI RIFERIMENTO

YESSOTOXIN GROUP	Yessotoxin (YTX); Homoyessotoxin (hYTX)	NRC-Canada
	Yessotoxin; Homoyessotoxin	Laboratorio CIFGA
	Homoyessotoxin; Yessotoxin	Novakits
	Homoyessotoxin; YTX	Lab Service Analytica

## BIOTOSSINE MARINE A RISCHIO EMERGENTE

MATERIALI DI RIFERIMENTO/STANDARD		FORNITORI
CICLIC IMINES GROUP	SPX1 (13-desmethyl spirolide C); GYMNODIMINE (GYM); PINNATOXIN: PnTXG	NRC-Canada
	20-methyl spirolide G; 13-didesmethyl spirolide C; 13,19-didesmethyl spirolide C;	Laboratorio CIFGA
	13-desméthyl spirolide C (SPX1)	Novakits
	13-desméthyl spirolide C (SPX1); PnTX-G	Lab Service Analytica
	Pinnatoxins: PnTX E; PnTXF; PnTXG	Sigmaaldrich/Merck
	Tissu de moule – Mytilus edulis – Traces de spirolides et pinnatoxines	Novakits
	Gimnodimine; Pinnatoxin-G; Pinnatoxin H; Portimine	Novakits
	Gimnodimine; Pinnatoxin-G	Lab Service Analytica
BREVETOXINS	PbtX1; PbTX2; PbTX3; BTXB5	Novakits
	BTX1; BTX2; BTX3; PbTx-2, <i>Ptychodiscus brevis</i> ; Brevetoxin PbTx-3, <i>Ptychodiscus brevis</i>	Sigmaaldrich/Merck
	BTX2; BTX3; PbTx-1; BTX3 42-carboxylic Acid	Axxora
TETRODOTOXIN GROUP	Tetrodotoxin (TTX);	NRC-Canada
	Tetrodotoxins	Enzo Life Science, Inc.
	Tetrodotoxin, 4,9-anhydro Tetrodotoxin and 4-epi Tetrodotoxin	Laboratorio CIFGA
	Tetrodotoxin	Axxora
PALYTOXINS GROUP	Palytoxin	FUJIFILM Waco Ch.
CIGUATOXIN GROUP	CTX 3C; CTX ELISA 1B; Maitotoxin; CTX 1B;	FUJIFILM Waco Ch.
	Gambierone; 44-methyl-Gambierone	Laboratorio CIFGA

## ELENCO MATERIALI DI RIFERIMENTO

### CIANOTOSSINE

MATERIALI DI RIFERIMENTO/STANDARD		FORNITORI
CYANOTOXINS GROUP	Anatoxin-a; Dihydroanatoxin-a cis, Homo-anatoxin-a, 13 C4-(+)-Anatoxin-a, Cylindrospermopsin; 7-epi-Cylindrospermopsin; 7-deoxy-Cylindrospermopsin; Microcystins; Microcystin HiLR; Microcystin LA; Microcystin LR, Microcystin LF; Microcystin LW; Microcystin LF Deuterated; Desmethyl Microcystin LR; Microcystin LR Deuterated; Microcystin LR Ethylated; Microcystin LY; Microcystin RR; Desmethyl Microcystin RR; Microcystins/Nodularins (ADDA); Microcystins/Nodularins (ADDA) Spiking Solution; Microcystins LR Check Samples; Microcystins MDL Study Solution; Microcystin WR; Microcystin YR; Microcystins MDL; Saxitoxins; Nodularins; BMAA; BMAA D3	Eurofins Abraxis
	Anatoxin-a; Toxins from <i>Cylindrospermopsis</i> (Cylindrospermopsin); Toxins from <i>Microcystis</i> (Microcystin LR; Microcystin RR; Microcystin YR; Microcystin LR-RR-YR; Microcystin LW; Microcystin LF; Microcystin LY; Toxins from <i>Planktothrix</i> ([D-Asp3,(E)-Dhb7]-Microcystin RR); Toxin from <i>Nodularia</i> (Nodularin);	Cyano Biotech GmbH
	Anatoxin-a; Cylindrospermopsin; Microcystin?LR; Microcystin?RR; Nodularin?R;	Lab Service Analytica
	Microcystin-LR; Microcystin-RR; Microcystin-LF; Microcystin-LY; Microcystin-YR; Cylindrospermopsin; Anatoxin-a; Nodularin;	Laboratorio CIFGA
	Microcystin-RR	NRC-Canada
	Microcystin-LR; Microcystin-RR; Microcystin-YR; Microcystin-LA; Microcystin-LF; Microcystin-LW; Microcystin-LY, Microcystin-WR; Desmethyl-LR; <b>Microcystine HiLR</b> ; Nodularin; MIX-MC: LR, RR, YR; MIX-MC: LR, RR, YR, LA, Nodularine; MIX: MC LR,RR,YR,LA,LF,LW,LY, Nodularine Cylindrospermopsine; 7-deoxycylindrospermopsine; 7-epi-cylindrospermopsine; Anatoxine-a; HomoAnatoxine-a; <b>dihydroanatoxine-a</b> ; L-BMAA; <b>BMAA hydrochloride</b>	Novakits
	L-BMAA hydrochloride; $\beta$ -N-Methyl-d <sub>3</sub> -amino-DL-alanine- <sup>15</sup> N <sub>2</sub> ; Nodularin	Sigma-Aldrich/Merck
	Microcystin-LA; Microcystin-LF; Microcystin-LR; Microcystin-LW; Microcystin-LY; Microcystin-RR; Microcystin-YR; Microcystin-WR	Enzo Life Sciences, Inc.
	Cylindrospermopsin; [D-Asp3]microcystin-RR; [D-Asp3]microcystin-LR; Microcystin-LR monoclonal antibody; Microcystin-HiLR; Microcystin-HtyR; Microcystin-LA; Microcystin-LF; Microcystin-LR; Microcystin-LY; Microcystin-RR; Microcystin-LW; Microcystin-YR; Microcystin-WR; Microcystins (Adda specific) ELISA kit; Nodularin;	Axxora

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**(in giallo modifiche rispetto alla versione precedente)**