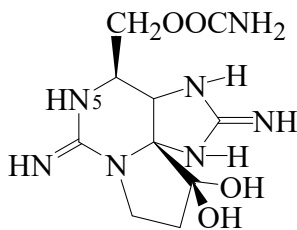




>>Entry Name: Saxitoxin  
ENTRY UNDER REVIEW



CAS Registry Number: 35523-89-8

Related CAS Registry Numbers(s): 35554-08-6

Molecular Formula: C<sub>10</sub>H<sub>17</sub>N<sub>7</sub>O<sub>4</sub>

Molecular Weight: 299.289

Accurate Mass: 299.134203

Percentage Composition: C 40.13%; H 5.73%; N 32.76%; O 21.38%

Biological Source: Paralytic poison from Alaska butter clams (*Saxidomus giganteus*), toxic mussels (*Mytilus californianus*), the plankton *Gonyaulax cantenella* and *Protogonyaulax tamarensis*

Use/Importance: Sodium channel (I, II, III, h1) blocker. Causal agent of paralytic shellfish poisoning

Physical Description: Noncryst.

Optical Rotation: [α]<sub>D</sub> +130

Solubility: BERDY SOL: Sol. H<sub>2</sub>O, MeOH; fairly sol. EtOH, AcOH; poorly sol. butanol, hexane

UV: [neutral] λ<sub>max</sub> (H<sub>2</sub>O) (Berdy)

Other Data: See also Gonyautoxin I [GQR10-D](#) and Gonyautoxin VI [GQR18-L](#)

**Hazard & Toxicity:** Extremely toxic, among the most toxic substances known. LD<sub>50</sub> (rat, orl) 0.192 mg/kg. LD<sub>50</sub> (mus, ipr) 0.005 mg/kg. LD<sub>50</sub> (mus, ivn) 0.008 mg/kg ;  
BERDY HAZD : LD<sub>50</sub> (mus, ipr) .01 mg/kg

Sigma: S1417

>>Derivative: 5-Hydroxy

Synonym(s): Neosaxitoxin

CAS Registry Number: 64296-20-4

Molecular Formula: C<sub>10</sub>H<sub>17</sub>N<sub>7</sub>O<sub>5</sub>

Molecular Weight: 315.288

Accurate Mass: 315.129118

Percentage Composition: C 38.10%; H 5.43%; N 31.10%; O 25.37%

Biological Source: Prod. by *Protogonyaulax* and found in shellfish

**Hazard & Toxicity:** Potent neurotoxin ; BERDY HAZD : LD<sub>50</sub> (mus, ipr) 5 mg/kg

Sigma: S0170

>>Derivative: 5-Hydroxy, decarbamoyl

Synonym(s): Decarbamoylneosaxitoxin

CAS Registry Number: 68683-58-9

Molecular Formula: C<sub>9</sub>H<sub>16</sub>N<sub>6</sub>O<sub>4</sub>

Molecular Weight: 272.263

Accurate Mass: 272.123304

Percentage Composition: C 39.70%; H 5.92%; N 30.87%; O 23.51%

Biological Source: Isol. from the crab *Zosimus aeneus*

>>Derivative: N<sup>60</sup>-Hydroxy

Synonym(s): N'-Hydroxysaxitoxin

CAS Registry Number: 153856-77-0

Molecular Formula: C<sub>10</sub>H<sub>17</sub>N<sub>7</sub>O<sub>5</sub>

Molecular Weight: 315.288

Accurate Mass: 315.129118

Percentage Composition: C 38.10%; H 5.43%; N 31.10%; O 25.37%

Biological Source: Isol. from the crab *Zosimus aeneus*

Other Data: Contains an N-hydroxycarbamoyl group