

Novaczek, I., M. S. Madhyastha, R. F. Ablett, G. Johnson, M. S. Nijjar and D. E. Sims (1991). **Uptake, disposition and depuration of domoic acid by blue mussels (*Mytilus edulis*).** *Aquatic Toxicology*. **21(1-2)**, 103-118.

ABSTRACT:

Domoic acid (DOM), the toxin involved in amnesic shellfish poisoning, was presented to live mussels (at 5°C, 28 ‰) in dissolved form (125 nM) and as food encapsulated in liposomes. Less than 1% of dissolved DOM and up to 6% of food-borne DOM was incorporated into mussel tissues. DOM absorbed from solution was most concentrated in gills and kidney, whereas DOM ingested as food was most concentrated in digestive gland and kidney. Gonad, muscle, foot and connective tissues retained the lowest concentrations of toxin. Compared to their proportion of body weight; kidney, digestive gland and gill retained larger than expected proportions of total toxin burden. The concentration of toxin in mussel tissues did not decrease consistently over a depuration period of 48 h, nor did DOM appear to be translocated to any tissue for storage. Small amounts of DOM were eliminated in faeces and larger amounts in dissolved form. Over 80% of intracellular DOM was associated with the TCA (trichloroacetic acid) soluble fraction of digestive gland tissue. DOM in the TCA insoluble fraction was positively correlated with overall DOM concentration.

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