Fig 1. Chemical structures of HAB toxins
Fig. 2. Effect of hypochlorite on HAB toxins as determined by assays. The three common HAB toxins, saxitoxin (STX), domoic acid (DA), and okadaic acid (OA) each at 1250 ng mL$^{-1}$, were exposed to a range of hypochlorite concentrations up to 30 ppm in seawater (45 g L$^{-1}$) at 35 °C for 10 min. Exposure time was limited to 10 min to avoid interference of hypochlorite with antibodies and bound toxins in ELISA experiments. With hypochlorite concentrations of up to 4 ppm the toxins were no longer recognized by their respective antibodies, indicating a chemical change. Experiments with brevetoxin concentrations at 3 ng mL$^{-1}$ PbTx-3 and a second experiment with a mixture at 300 ng mL$^{-1}$ were exposed to hypochlorite concentrations up to 30 ppm for 60 min at 37 °C. Brevetoxin concentrations measured by ELISA remained around 100% (dashed line), indicating no effect.
Fig 2

Toxin Recovery (%) vs Hypochlorite concentration (ppm)

- Saxitoxin
- Okadaic acid
- Domoic acid
- Brevetoxins