

Node 5: Marine Biodiscovery

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Projects

- WAMBL: WA Marine Bioresources Library
(Western Australian Museum)
- Quorum quenching compounds from marine bacteria
(School of Biomedical, Biomolecular and Chemical Sciences,
University of Western Australia)
- Biotechnology legislation
(Department of Commerce)

5.1 Western Australian Marine Bioresources Library (WAMBL)

- Nov 2008 – Dec 2010
- Funding = half time technical support
- 150 frozen samples
- 466 extracts from AIMS
- 50 extracts for breast cancer screen at WAIMR

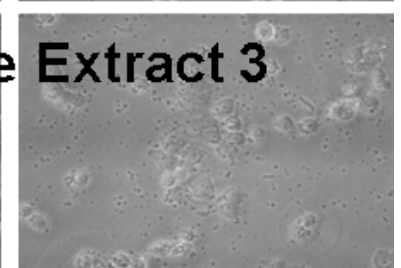
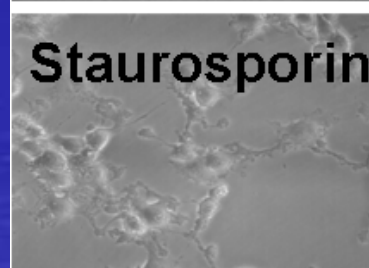
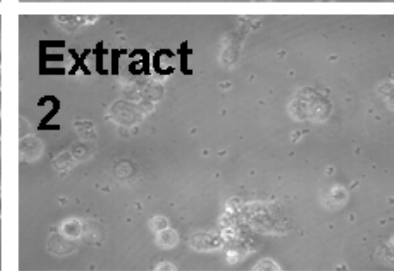
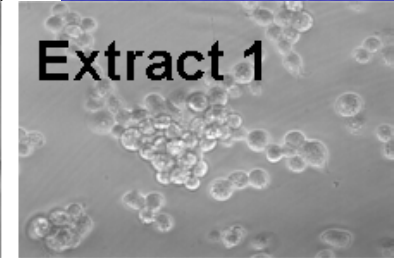
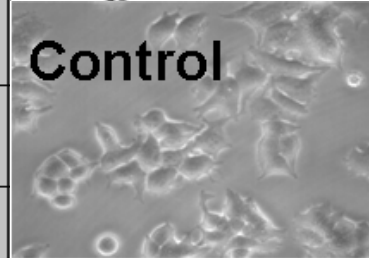
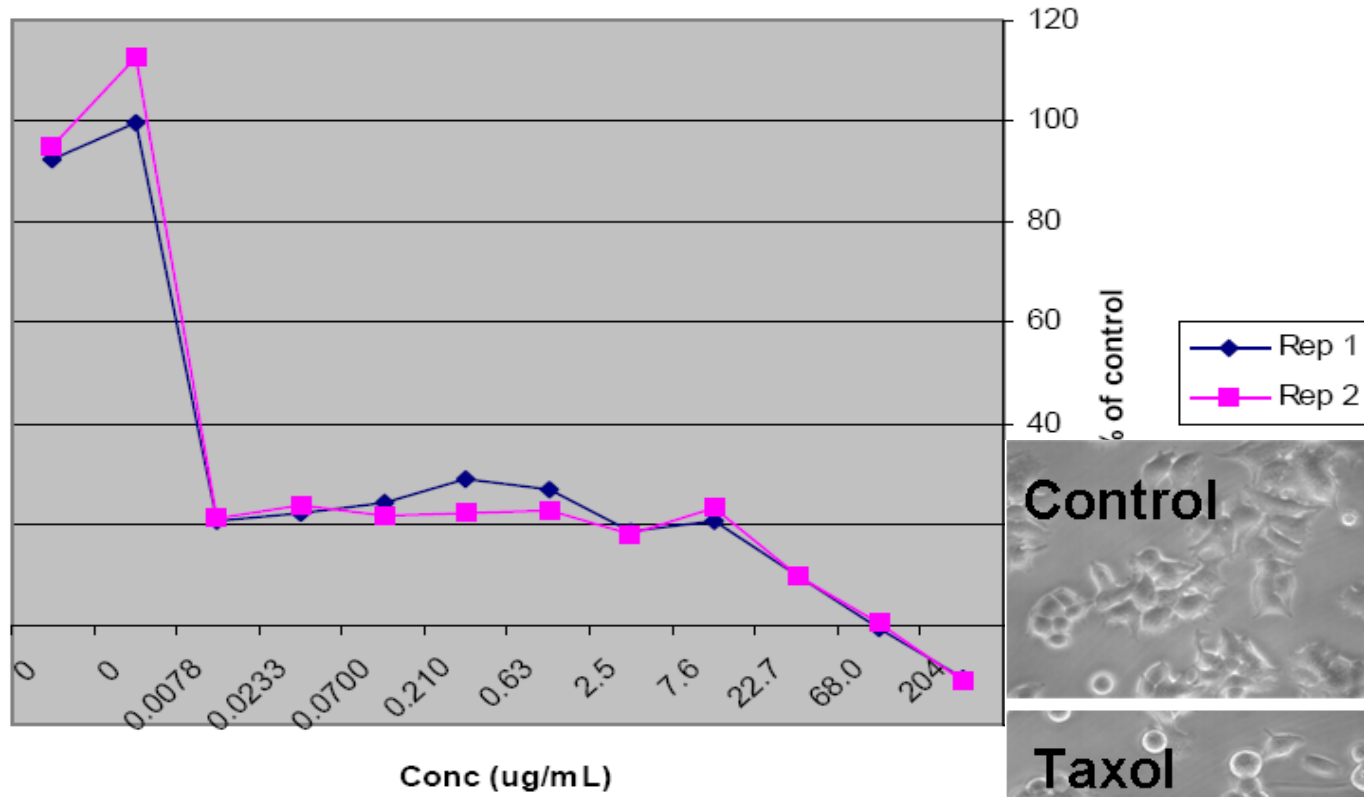
Salicylihalamides A and B

Isolated from marine sponge *Haliclona* sp. from Western Australia (Erickson, *et al.* *J.Org.Chem.***62**: 8188, 1997.)



H460 Growth Inhibition

Growth as % of control



Access: The current solution

- Incorporates frozen material from existing collections
 - Lawfully collected in the past
 - Quality criteria must be met
 - Prior Informed Consent obtained
- WAMBL is a a subset of the State's Faunal Collection at the WA Museum
- Researchers need an authority under WA Fisheries reg 179 to access WAMBL for biodiscovery, and to sign a Material Transfer agreement with the WA Museum.
- This current process is likely to be superseded by any new legislation in WA.

5.4 Quorum quenching compounds from marine bacteria

- 2007-2010
- Funding = PhD top up (Jamie Summerfield)
- Identified a quorum quenching compound
- Final phase: investigating the mechanism by which the compound interferes with quorum sensing (bacterial communication)

Major Outcomes Expected

- Focus on Biodiscovery Policy for the State leading to legislative review
- New skills/experience in critical disciplines (biosystematics, marine microbiology, chemistry)
- A WA biodiversity library curated for screening and broad access
- New industry linkages within the State starting with the biomedical sector

Biodiscovery Policy

- Department of Commerce currently clarifying legal issues concerning access to native biota, native title and traditional knowledge, and developing standardised access and benefit sharing agreements to generate industry development in WA.
- Collaborated with Mr Murray Hird, NT government, examining biodiscovery and bioprospecting issues in WA.
- Consulted with 20 stakeholder organisations between September -December 2009. Access and benefit sharing arrangements in WA are likely to be implemented using the NT model as a template.

The Future

- 'WA Biodiscovery Act'
- A commitment to maintaining a WA Bioresources library
- A commitment to funding PhD projects that focus on marine biodiscovery
- Achieve better integration, collaboration and outcomes among relevant scientific disciplines (government & industry partners) to support a marine biodiscovery industry in WA