

Drug discovery from marine microalgae

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Project details:

Selecting anticancer hits previously isolated from cultures of marine microalgae and screening for new anticancer compounds from deep-sea samples.

- 1) To improve the production of these compounds using variations in media composition and/or fermentation conditions.
- 2) Scaled-up production of bioactive species in bioreactors to maximize the production of targeted molecules.
- 3) Test newly isolated species for anti-cancer (A549 lung, HT-29 colon-rectal, Saos-2 osteosarcoma, MDA-MB-231 breast, PC-3 prostate, A2780 ovarian) activity.
- 4) Identify the mechanism of action and main pathways involved in cell signalling processes (autophagy, necrosis, apoptosis, inflammation, oxidative stress and other pathways).
- 5) Chemical characterization of compounds of interest.