

BIG Blue Italian Growth

BLUE BIOTECHNOLOGY

1. Pharmaceuticals (cosmeceuticals, nutraceuticals)
2. Biomaterials
3. Environmental Biotechnology

Technology Cluster

Yondelis® (trabectedin)



Health



colonial tunicate
Ecteinascidia turbinata

Marine Drugs in Clinical Trials.

Cancer

Drug-like Molecule

MoA	Compound	Source	Company	Reference
Oxidative stress Inducer	Aplidin®	Mediterranean Ascidian	PharmaMar	<i>Moneo et al., (2007) Mol Cancer Ther</i>
Lysosome disturbing	Kahaladide F	Sea Slug/ Alga /Bacteria	PharmaMar	<i>Gracia et al., (2006) J Org Chem</i>
Protein C Kinase Inhibitor	Bryostatin-1	Bryozoan/ Symbiont	NCI/ Bristol Myers	<i>Wang et al., (1998) Biochem Pharmacol</i>
Proteasome Inhibitor	Salinosporamide A	Marine Bacteria	Nereus	<i>Fenical & Jensen (2006) Nat Chem Biol</i>
Microtubule Interfering agents	Dolastatin 10 Discodermolide Halichondrins	Sea Slug Sponge Sponge	NCI/ Knoll Novartis Eisai	<i>Jordan et al., (2005) Mol Cancer Ther</i>

... and 12 more compounds....



Plunge into the world of marine cosmetics



Phytomer Skin Care

Phytomer is a marine based professional product line which can be found all over the world

The European market for cosmetics is booming and is the biggest in the world, at over 27 million Euro income per year

Contribution of Marine Biotech to production of innovative products - BIOMATERIALS

1. Proteins and enzymes

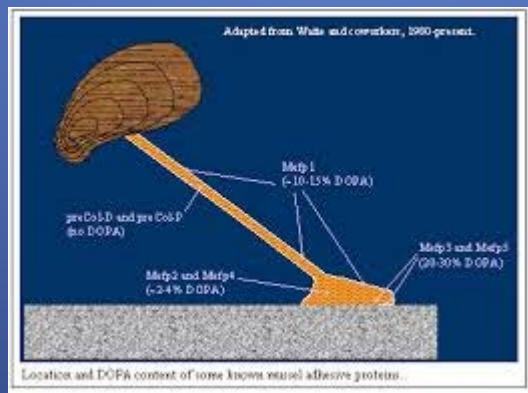
- Large range of applications: health, energy, environment, etc.

2. Biopolymers

- Large range of applications: cosmetics, health, bioremediation, etc.

3. Biomaterials

- Chitin, silica, etc.



Environmental Biotechnology

Biotechnology has contributed to marine research in many ways:

1. Bioremediation after major oil spills
2. Monitoring toxic blooms
3. Restoration of polluted habitats (progetto ABBACO)



Il CTN BIG si propone come struttura aperta alla partecipazione di tutti gli attori nazionali interessati ai temi della Blue Growth (Biotecnologie Marine), con la finalità di creare una comunità aggregativa di valenza nazionale, capace di essere efficacemente rappresentativa del settore in una prospettiva internazionale, e come punto di incontro con le Amministrazioni regionali e nazionali.

Come?

- Creare un network di ricercatori e industrie che operano nei 3 settori individuati come fondamentali per le biotecnologie marine (Pharma/Biomateriali/Ambiente)
- Creare un documento di visione che mette in risalto le forze italiane – il “roadmap” per rafforzare questi settori in Italia
- Allineare e integrare gli scenari e le azioni regionali e nazionali con quelle europee del settore