

PHARMACEUTICALS

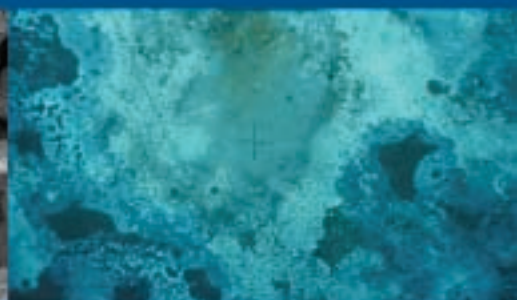
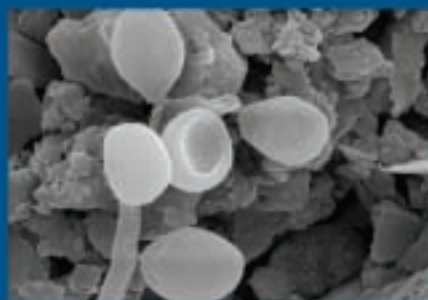
SLIME, SPONGES, CORALS



Thousands of biochemical tests are required

Blue biotechnology screens for pharmaceuticals in marine organisms living in extreme conditions. These organisms developed enzymes enabling them to survive under extreme temperatures, the presence of poisonous gases and the absence of oxygen. With the aid of ecological genomics the secrets of nature can be accessed from the DNA of these organisms.

MARINE TREASURES MIGHT YIELD NEW MEDICATIONS TO TREAT CANCER, PAIN AND INFLAMMATION



Sponges, corals and tube worms have successful strategies to survive in hostile environments. Scientists are hoping to find novel antibiotics.

Marine bacteria build functionable proteins at very high temperatures or metabolize methane in the absence of oxygen.

Microbial populations have specific genes that help conserve iron for survival and defense. The same mechanisms may protect humans from skin, mouth, lung, and kidney inflammation.

RESEARCH NEEDS

- ▶ to screen marine organisms in extreme environments
- ▶ to develop ecological genomics
- ▶ to isolate and test novel enzymes

