Bioluminescence Encyclopedia Article

Bioluminescence

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Bioluminescence

Bioluminescence ("living light") is the production of light by living organisms through a biochemical reaction. The general reaction involves a substrate called luciferin and an **enzyme** called luciferase, and requires oxygen. Specifically, luciferin is oxidized by luciferase and the chemical energy produced is transformed into light energy. In **nature**, bioluminescence is fairly widespread among a diverse group of organisms such as bacteria, **fungi**, sponges, jellyfish, mollusks, crustaceans, some worms, fireflies, and fish. It is totally lacking in vertebrate animals. Fireflies are probably the most commonly recognized examples of bioluminescent organisms, using the emitted light for mate recognition.