**Green Fluorescent Protein (GFP) from jelly fish to Nobel**

2008 was the year of Nobel Prize in Chemistry was given to Martin Chalfie, Osamu Shimomura, and Roger Y. Tsien for the discovery and application of green fluorescent protein. Green fluorescent protein (GFP) is a protein found in the jellyfish Aequorea Victoria that glows green in the presence of light. The protein contains 238 amino acids, three of which (nucleotides 65–67) create a structure that produces visible green fluorescent light (GFP) is a polypeptide of around 27 kDa that converts the blue chemiluminescence of the Ca2+-sensitive photoprotein aequorin into green light. Green fluorescent protein (GFP) has functioned as the researcher′s agent since its first use as a reporter gene in 1994. The strength of GFP is its small size, tremendous stability, and ease of use. It just needs oxygen and an energy source to function, both of which may be supplied at a low cost and with excellent precision. a summary of GFP′s contributions to biotechnology. In biotechnology, green fluorescent protein (GFP) is used as 1. transcriptional activation for stress probes and promoter studies, 2. fusion proteins for stability, reporting, and activity, 3. conformational changes for small molecule and calcium detection, 4. localization studies for transport from the endoplasmic reticulum (ER), surface proteins, and whole-organism visualisation, 5. intracellular localization studies, and 6. protein-folding and rapid screening assays in E. coli, using directed evolution for protein modification A distinct advantage of utilising GFP-tagged microorganisms in food or beverages. The use of GFP-tagged bacteria in food or environmental biotechnology investigations has the advantage of allowing experimental microorganisms to be easily distinguished from those found naturally in the sample under study. This fluorescent is now being used in a variety of industries. Here we examine the various applications of GFP and its breakthroughs in various fields.