# Cell-Permeable Green Fluorescent Protein

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**WARF: P06084US**

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**The Wisconsin Alumni Research Foundation (WARF) is seeking commercial partners interested in a GFP variant that does not require an internalization tag to enter a living cell.**

## Overview

The green fluorescent protein (GFP) from the jellyfish *Aequorea victoria* is an extremely useful tool in biochemistry, molecular biology and diagnostics. This protein has been used to study gene expression, subcellular localization of proteins, and changes in the cellular environment, and to monitor infection efficiency of viral vectors.

## The Invention

UW-Madison researchers have developed a GFP variant that does not require an internalization tag to enter a living cell. Negatively charged residues on the surface of the protein are replaced with positively charged amino acids, such as arginine. This endows the GFP with a cationic "patch" that attracts it to negatively charged glycosaminoglycans on the cell surface. After it binds to the cell surface, the engineered GFP can easily permeate the cell membrane.

## Applications

- Fluorescent tag or enzyme substrate in living cells

## Key Benefits

- Provides a fluorescent marker capable of crossing cell membranes in less than an hour
- Eliminates the need for transfections, allowing the direct use of proteins in numerous biological applications
- A linker-modified, cell-permeable GFP may be used to screen for protease activity, including HIV-1 protease activity, in living cells.
- Method useful for proteins in addition to GFP

**Tech Fields**

- Research Tools : Detection

For current licensing status, please contact Jennifer Gottwald at jennifer@warf.org or 608-960-9854