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Geminivirus- Based Replicons for Co-expression of Multiple Proteins in Plants

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Patent Pending

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Invention Description

Because of the obvious cost-effective advantages to producing mammalian proteins in plants, as opposed to conventional mammalian tissue culture, considerable efforts have been expended in the biotech arena to perfect this technology. One of the major challenges is the efficient transient expression of hetero-oligomeric proteins, which currently requires multiple viral expressions systems.

Researchers at Arizona State University's Biodesign Institute have developed a single vector that contains two non-competing replicons for expression in transgenic plants. This system advances plant expression technology by eliminating the daunting need for non-competing viruses. This feature enhances the realistic commercial application of the technology for producing multiple-subunit protein complexes.

Potential Applications

- **GMP production of a wide variety of therapeutic proteins for research and commercial use.**

Benefits and Advantages

- **Transient expression or stable transgenic plants**
- **High yield hetero-oligomeric proteins**
- **Simple expression vector**