

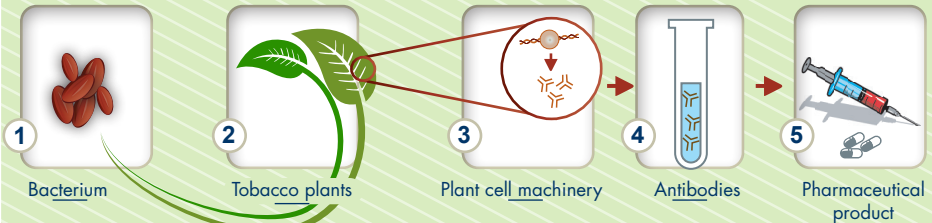
WHAT CAN WE DO WITH BIOPHARMING?

Biopharming is described as the use of plant to manufacture pharmaceutical products. The CSIR biopharming platform makes use of plant-based expression systems to develop therapeutics defined for human health, veterinary health and industrial biotechnology, at various stages of development. Technological development has resulted in plants increasingly becoming an attractive host for the recombinant production of proteins.

The CSIR has produced vaccines such as RabiVir, a plant-made antibody cocktail for rabies prophylaxis plant-made sub-unit animal vaccines, as well as a pipeline of other vaccine production technologies, HIV antibodies, pandemic response vaccines, animal health and virus-like particles.



An example of how the biopharming platform produces an antibody



1. DNA encoding the antibodies is inserted into a bacterium.
2. Tobacco plants are inoculated with the bacteria, which delivers the DNA into the plant cells.
3. Plant cell machinery reads the DNA and produces antibodies.
4. Antibodies are harvested from the plants.
5. Antibodies are purified into a form that can be given to humans.

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