

Plantibodies: A forecast note

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Over the years, as the number of diseases has been increased so did the demand for antibodies. The methods used for the production of antibodies using animal systems not being effective enough have led to the development of systems using plants, which allow the production of antibodies that are non-toxic to humans and also cost-effective. As plants are not easily contaminated by human pathogens, scientists have used them as bioreactors for large-scale production of antibodies. The antibodies produced by these plants are called plantibodies. The basic step for the production of these plantibodies either includes the whole plant or the plant cell culture where the desired antibody gene is introduced (into the plant genome). This leads to the production of successive generations of plants with desired antibodies. These plants are hence called transgenic plants. Tobacco, tomato and cereal being a few of the many plants that are used for the production of plantibodies. The use of transgenic plants to produce plantibodies for therapeutic purposes has made a huge impact on biotechnology as well as pharmaceutical industries. Currently, there are no such plantibodies available in the market but with the recent advanced developments, the plantibodies are able to successfully overcome the limitations and reach up to phase 2 clinical trials.

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