

An evaluation of allergenic potential of Cry2Ab insecticidal protein present in genetically modified plants

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Insecticidal crystal proteins are being expressed into several genetically modified crops and are progressively gaining momentum. Many of them are undergoing field tests and scheduled for early release, need to have no allergenic or residual effect and should be safe for consumption. This study details safety assessment of Cry2Ab protein, being expressed in genetically modified cotton MON15985. A highly purified Cry2Ab protein, sourced from a recombinant clone was subjected to simulated gastric and intestinal fluid assay which showed complete degradation in 20 seconds. In addition, an enzyme linked immunosorbent assay was done to ascertain the presence of IgE in sera of Balb/c mice, exposed intraperitoneally for 21 days, 100 µg/day (dose concentration), to either purified Cry2Ab protein or transformed cotton seed extract (10% homogenate). No adverse effect on behavior or mortality was seen in the experimental animals. This concludes that Cry2Ab protein implies no immunogenic potency and hence crops expressing Cry2Ab are safe for consumption.

Biography

Suchitra Kamle has completed her Ph.D. from Indian Institute of Toxicology Research, Lucknow, India and she has been awarded with Ph.D. in Biotechnology by the Banaras Hindu University, Varanasi, India. Her postdoctoral studies are from National Institute of Immunology, New Delhi. She has been awarded with the DBT post doctoral fellowship and working (Govt. of India) at NII. She has also published papers in reputed journals and has been serving as an editorial board member of Global Advanced Research in Biotechnology and reviewer of many reputed journals.

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