

## Customer case study

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***“We achieved champion food safety and quality compliance through turnkey LC-MS/MS solutions and the augmented scientific capabilities of the team.”***

### Project goal

Determination of aflatoxin M1 in samples of milk and milk products using an LC-MS/MS system

### Biggest challenges

- To ensure the safety of milk and milk products for Indian and global consumers via high-throughput LC-MS/MS-based quality analysis
- To design a standard workflow with reliable instrumentation, reduce analytical costs and allow more frequent monitoring of mycotoxins in milk
- To create an accessibility structure for residue limit compliance testing for milk producers, processors, buyers and regulators

### The solution

- The QTRAP® 4500 LC-MS/MS System with Analyst® Software enabled the development of a robust analytical method that can simultaneously detect and quantify a broad number of mycotoxins in milk with low limits of detection and quantification
- SCIEX QTRAP functionality added another layer of confirmation to substantiate the results of the LC-MS/MS data analysis of the mycotoxins

### Outcomes of research

- Developed and validated a sensitive, robust and reproducible method using the QTRAP® 4500 System to detect aflatoxin M1 in milk and dairy products
- Incorporation of a compliant software-based standard workflow strengthened the compliance framework for high-throughput monitoring of aflatoxin M1, which is considered a potential risk to human health because of its carcinogenicity
- Created a singular mechanism to strengthen food safety and enforce regulatory compliance to deal with variable levels of aflatoxin M1 in the milk and dairy products of different countries depending on climate, cattle breeds and nutrition feeding system



***“The SCIEX team empowered us to achieve our goals in testing excellence via holistic application and service support and catering to our concerns urgently.”***

### Organization

Quality control laboratory for the Government of Gujarat that implements high standards of unbiased and impartial testing and follows Good Laboratory Practices of Drugs and Cosmetics Rules (1945), Food Safety and Standard Act (2006) and ISO/IEC/17025:2017 (E) for the testing of food and drugs items

### Goal

To be recognized globally for providing world-class testing facilities for safeguarding human and animal health by establishing and reviewing quality objectives at various levels of the organization, and to provide trusted, high-quality and result-oriented analytical services achieved through advancement of scientific laboratory practices

### SCIEX products

- QTRAP® 4500 LC-MS/MS System
- Analyst® Software 1.7
- MultiQuant™ Software 3.03