Ochratoxin A in Egg Noodles and Wholemeal Spaghetti

Mykotoxine

Noodles such as spaghetti and penne enjoy great popularity worldwide. But who exactly invented the noodle is still unclear. For a very long time, China and Italy fought over the fact which of the two was the inventor. In 2005 it became certainty: Excavations in China have revealed a 4000-year-old pot with noodles. It was a kind of spaghetti, over half a meter long. Therefore, the Italians had to accept that the Chinese are the true inventors, or at least the first „inventors of noodles“. But the accusation that the Italians copied the production of noodles from the Chinese probably does not correspondent to the truth. It is more likely that the pasta was invented in several places independently of each other. (Source: http://www.geo.de/geolino/mensch/3225-rtkl-geschichte-die-lange-reise-der-nudel)

By the way: On 20 November 2004, Chen Shenli produced the world´s longest pasta in Vienna. In crafted he made pasta from a piece of dough weighing 1500 g, which was 180 m long and sufficient for 50 portions.

Ochratoxin A in Food and Feed

Ochratoxin A is a naturally occurring mycotoxin, which is formed as primary contamination in a wide variety of food and feed. Therefore, it is often found in noodles or rather in its ingredients like wheat or other cereals.

In order to purify analytes such as ochratoxin A quickly and efficiently, LCTech has developed the OtaCLEAN immunoaffinity columns. The columns are successfully employed for the most diverse matrices in accredited laboratories worldwide. They performed well in international interlaboratory trials. Besides the 1 mL Format the columns are available in a convenient 3 mL format and also in a 3 cm small SMART version. They are suitable for manual and for automated preparation e. g. with the robotic system FREESTYLE SPE or FREESTYLE ThermELUTE™.

Processing Protocol

Homogenise 20 g of noodles (**a: wholemeal spaghetti** and **b: egg noodles**) and add 2 g of sodium chloride. Extract the sample through 100 mL methanol/water (80/20 (v/v)) and 50 mL n-hexane in order to remove fat and oils. The extraction should be conducted for 10 minutes.

Filtrate the raw extract and dilute 10 mL with 40 mL PBS. Load 50 mL of the sample onto the immunoaffinity column OtaCLEAN (max. flow rate: 2 mL/min). Wash the sample reservoir afterwards with 2 x 5 mL deionised water and load this solution on the IAC-column, too.

Dry the column by flushing air through it and elute the toxins afterwards with 2 mL methanol. Keep in mind that the column bed is incubated with the methanol for at least 5 minutes in order to ensure the complete denaturation of the antibodies.

Dilute the sample to eluent conditions and measure it afterwards via HPLC with fluorescence detection or LC-MS.

Find more Details, Recovery Rates, HPLC-Conditions and Chromatograms here.

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