

## ***ELISAs for determination of ochratoxin A by monoclonal anti-ochratoxin A antibody or F(ab')<sub>2</sub> fragment***

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### ***Abstract***

Ochratoxins are possible human carcinogens and development of sensitive immunoassay for its determination in foods is very important task. The aim of this study was to develop sensitive ELISAs on the base of mice monoclonal antibody (mAb) against ochratoxin A (OTA) or its F(ab')<sub>2</sub> fragment. The mice mAb was produced in vitro using tissue-culture techniques. The activity of the obtained anti-OTA mAb was measured. F(ab')<sub>2</sub> fragment of anti-OTA mAb was obtained by pepsin hydrolysis of the produced mAb. A indirect ELISAs were performed by using obtained F(ab')<sub>2</sub> fragment and anti-OTA mAb. Peroxidase-labeled secondary antibody was used. The analytical characteristics of the indirect ELISA with F(ab')<sub>2</sub> fragment were compared with those with mAb. The linear range of OTA in phosphate buffer at immunoassay with F(ab')<sub>2</sub> fragment was from 0.1 to 100 ng/mL. The linear range of immunoassay with the whole anti-OTA mAb was from 0.1 to 10 ng/mL. The obtained results were compared by certified mice mAb against ochratoxin A. The linear range with the certified mAb was from 1 to 500 ng/mL. The developed ELISAs with obtained F(ab')<sub>2</sub> fragment or produced anti-OTA mAb have possibility to measure low OTA concentration.

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DOI: 10.1016/j.ab.2020.113929

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DOI: 10.2174/187407070190130137

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### ***Biography:***

Yavor Ivanov has completed her Phd and currently she is a professor at Department Biotechnology, in “Prof. Dr A. Zlatarov” University, Burgas, Bulgaria.

### ***Speaker Publications:***

1. “Magnetic Nanoparticle-Based Fluorescence Immunoassay for Determination of Ochratoxin A in Milk”; August 2020 Food Analytical Methods

DOI: 10.1007/s12161-020-01848-7

2. “CD34+ stem cell counting using labeled immobilized anti-CD34 antibody onto magnetic nanoparticles and EasyCounter