



Agricultural Journals

Czech Journal of

FOOD SCIENCES

[home](#) [page](#) [about us](#) [contact](#)

[us](#)

Table of Contents

IN PRESS

CJFS 2014

CJFS 2013

CJFS 2012

CJFS 2011

CJFS 2010

CJFS 2009

CJFS 2008

CJFS 2007

CJFS 2006

CJFS 2005

CJFS 2004

CJFS 2003

CJFS 2002

CJFS 2001

CJFS Home

Editorial Board

For Authors

- **Authors Declaration**
- **Instruction to Authors**
- **Guide for Authors**
- **Copyright Statement**
- **Submission**

For Reviewers

- **Guide for Reviewers**
- **Reviewers Login**

Subscription

Czech J. Food Sci.

**Polívková Z., Langová
M., Šmerák P., Bártová**

Antimutagenic effect of genistein

Czech J. Food Sci., 24 (2006): 119-126

A great variety of health benefits including the protection against breast and prostate cancers has been attributed to the soya consumption, because of the presence of soy beans isoflavones, genistein, and others. We investigated the antigenotoxic effect of genistein on the genotoxicity of three mutagens and carcinogens – aflatoxine B₁ (AFB₁), 2-amino-3-

methylimidazo [4,5-f]quinoline (IQ), and *N*-nitroso-*N*-methylurea (MNU), using the Ames bacterial mutagenicity test and the micronucleus test. In the Ames test on *Salmonella typhimurium*, a significant antimutagenic effect was determined against the indirect mutagen AFB₁ in two

strains, TA98 and TA100. However, the effect on the IQ indirect mutagenicity was more pronounced in the test with TA98 than with TA100. The mutagenicity of the direct mutagen MNU was suppressed by genistein only at its highest concentration

used (300 µg/plate). The protective effect of genistein against all three mutagens was proved in the micronucleus test as the treatment of mice with the combinations of genistein and mutagens resulted in a significant reduction of the number of micronuclei in comparison with the number of micronuclei induced by the individual mutagens alone.

Keywords:

chemoprevention; aflatoxin B₁; 2-amino-3-methylimidazo [4,5-f]quinoline; *N*-nitroso-*N*-methylurea; Ames test; micronucleus test

[[fulltext](#)]

© 2011 **Czech Academy of Agricultural Sciences**