

Abstract

Heterocyclic aromatic amines (HAA) are representatives of carcinogenic and mutagenic compounds formed when muscle meat, including fish, is cooked, especially by frying and grilling. When these xenobiotic compounds enter the organism, they may be activated by metabolism into compounds with higher toxicity or carcinogenic potential. Besides the enzymes of the phase I metabolism also the enzymes of the phase II metabolism mainly sulfotransferases (SULT) and N-acetyltransferases (NAT) may participate. Because these enzymes may be inducible their induction may be caused by other compounds present in food. Important inductors are some representatives of flavonoids - genistein, biochanin A and β -naphthoflavone. These compounds have been proven to be able to induce formation of sulfotransferases *in vivo* and *in vitro* conditions. An increased amount of enzymes may lead to the support of metabolic activation of procarcinogens, resulting in an increased formation of DNA adducts, causing development of carcinogenesis. For the research of induction of rat enzymes, rSULT and rNAT peptides were proposed that will be used for the production of antibodies suitable for their immunodetection.