Alkylation of Adenosine Deaminase and Thioredoxin by Acrylamide in Human Cell Cultures

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Acrylamide is an α,β-unsaturated vinyl monomer that causes cytotoxicity due to its alkylating properties. In recent years several proteins have been identified that are alkylated by acrylamide *in vivo*. This finding might explain the neurotoxic effects of acrylamide in humans. However, the list of potential acrylamide target proteins is far from being complete. In particular, the proteins that mediate the cytotoxicity of acrylamide in cell cultures remained unknown. Here we identify two novel acrylamide target proteins in human cell cultures (Jurkat, HepG2 and Caco-2), adenosine deaminase and thioredoxin.

Key words: Acrylamide, Alkylation, Cytotoxicity, Mode of Action