

# **Epigenetic Effectiveness of Complete Carcinogens: Specific Interactions of Polycyclic Aromatic Hydrocarbons and Aminoazo Dyes with Cholesterol and Apolipoprotein A-I**

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During a co-precipitation of cholesterol (Chol) and slight amounts of polycyclic aromatic hydrocarbons (PAHs) or aminoazo dyes (AZOs) in aqueous albumin solution, complex particles are formed; on their surfaces apolipoproteins with an amphipathic  $\alpha$ -helix (*e.g.* apoA-I) are more or less firmly adsorbed. An efficacy index can be calculated from the strength of the hydrophobic interactions between apoA-I and the [Chol/PAH]- or [Chol/AZO]-complex, and the solubility of the PAH or AZO in an aqueous medium, which correlates to the carcinogenicity of these compounds. A short-term test for PAHs and AZOs is described, in which the efficacy index can be determined in the simplest manner without any great expenditure on equipment. The previous results suggest that the parent compounds of the PAHs and AZOs can be involved in a specific interaction with cholesterol-domains of the plasma membrane of a cell. The changes in membrane fluidity and architecture caused by these specific interactions could modulate the distribution and/or activity of membrane proteins which are critical to the regulation of cellular proliferation.

*Key words:* Polycyclic Aromatic Hydrocarbons, Aminoazo Dyes, Cholesterol