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4-Hydroxyestrone

National Cancer Institute

Source

National Cancer Institute. *4-Hydroxyestrone*. NCI Thesaurus. Code C114469.

A metabolite formed during the catabolism of estrone by the liver through the hydroxylation of the carbon at position 4 by cytochrome P450 (CYP) family enzymes, with potential carcinogenic activity. The mechanism of action for the tumor promoting activity of 4-hydroxyestrone is not known but this metabolic product has increased estrogenic activity compared to the parent compound. Additionally, oxidation of 4-hydroxyestrone generates compounds with free radicals that are capable of removing purines from DNA, which can cause mutagenesis and can lead to tumorigenesis.