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16alpha-Hydroxyestrone

National Cancer Institute

Source

National Cancer Institute. *16alpha-Hydroxyestrone*. NCI Thesaurus. Code C120468.

A metabolite formed during the catabolism of estrone by the liver through the hydroxylation of the carbon at position 16 by cytochrome P450 (CYP) family enzymes, including CYP3A4 and 3A5, with potential carcinogenic activity. With increased estrogenic activity compared to the parent compound, 16alpha-hydroxyestrone (16alpha-OHE1) increases the expression of ER-responsive genes, which leads to increased proliferation of susceptible tumor cells. The ratio between the two estrogen metabolites, 2-hydroxyestrone (2-OHE1), a weak estrogen and metabolite from the 2-hydroxylation pathway, and 16alpha-OHE1, a metabolite from the 16-hydroxylation pathway, may be used to assess the risk of certain cancers; a higher ratio of 2-OHE1:16alpha-OHE1 correlates with decreased cancer risk.