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CYP17 Lyase Inhibitor ASN001

National Cancer Institute

Source

National Cancer Institute. *CYP17 Lyase Inhibitor ASN001*. NCI Thesaurus. Code C120310.

An orally available non-steroidal, lyase-selective inhibitor of the steroid 17- α -hydroxylase/C17,20 lyase (CYP17A1 or CYP17), with potential anti-androgenic and antineoplastic activities. Upon oral administration, CYP17 lyase inhibitor ASN001 selectively binds to and inhibits the lyase activity of CYP17A1 in both the testes and adrenal glands, resulting in a significant reduction in androgen production to castrate-range levels. This may both decrease androgen-dependent growth signaling and inhibit the proliferation of androgen-dependent tumor cells. The cytochrome P450 enzyme CYP17A1, which is localized to the endoplasmic reticulum, exhibits both 17 α -hydroxylase and 17,20-lyase activities; it plays a key role in the steroidogenic pathway. The selective inhibition of CYP17A1 lyase activity by ASN001 prevents the increased synthesis of mineralocorticoids that is normally seen with non-selective CYP17 inhibitors, which also inhibit the 17- α -hydroxylase activity of CYP17A1.