

[Open Peer Review on Qeios](#)

Doxorubicin Prodrug L-377,202

National Cancer Institute

Source

National Cancer Institute. *Doxorubicin Prodrug L-377,202*. NCI Thesaurus. Code C1853.

A prodrug in which a peptide is covalently conjugated with the anthracycline antineoplastic antibiotic doxorubicin. This complex is hydrolyzed by the enzyme prostate-specific antigen (PSA), resulting in the formation of doxorubicin and leucine-doxorubicin. Selective targeting of these drugs to prostate tumor cells occurs because the hydrolyzing PSA enzyme is localized to the prostate gland. Doxorubicin and leucine-doxorubicin intercalate into DNA and interacts with topoisomerase II, thereby inhibiting DNA replication and repair and RNA and protein synthesis. These agents also produce toxic free-radical intermediates and interact with cell membrane lipids causing lipid peroxidation. (NCI04)