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Light-activated AU-011

National Cancer Institute

Source

National Cancer Institute. *Light-activated AU-011*. NCI Thesaurus. Code C137951.

A formulation composed of nanoparticles derived from the human papillomavirus (HPV-NPs) and conjugated to the infrared (IR)-activated fluorescent dye IR700 (IR-700), with potential antineoplastic activity. Upon intravitreal injection, the HPV-NPs target and bind to heparan-sulfated proteoglycans (HSPG) expressed by ocular melanoma cells. Upon irradiation with near-IR (NIR) light, the photosensitizer IR700 becomes activated, generates reactive oxygen species (ROS) and selectively damages the melanoma cell membrane, which induces necrosis of the melanoma cells while sparing the surrounding, healthy non-HSPG-expressing tissue, and potentially preserving vision. HSPGs are overexpressed on a variety of cancer cell types.