SSTR2-targeting Protein/DM1 Conjugate PEN-221

National Cancer Institute

Source

National Cancer Institute. SSTR2-targeting Protein/DM1 Conjugate PEN-221. NCI Thesaurus. Code C131562.

A miniaturized drug conjugate composed of a peptide analog of somatostatin that targets the somatostatin receptor 2 (SSTR2) and is conjugated, through a cleavable linker, to the microtubule-binding cytotoxic maytansinoid DM1 (mertansine), with potential anti-tumor activity. Upon administration, the peptide ligand moiety of PEN-221 targets and binds to SSTR2, which is overexpressed on certain tumor cell types. Binding stimulates SSTR2-mediated endocytosis of the agent; upon internalization, the DM1 moiety is released and binds to tubulin, thereby disrupting microtubule assembly/disassembly dynamics. This inhibits both cell division and the proliferation of SSTR2-expressing cancer cells. Compared to antibody-drug conjugates (ADCs), miniaturized drug conjugates are much smaller and can more easily penetrate and distribute in dense tumor tissue.