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Prohibitin-Targeting Peptide 1

National Cancer Institute

Source

National Cancer Institute. *Prohibitin-Targeting Peptide 1*. NCI Thesaurus. Code C95709.

A chimeric, 25-mer peptide that targets prohibitin, with potential antineoplastic activity. Prohibitin-targeting peptide 1 (prohibitin-TP01) consists of a fat-targeting motif (CKGGRKDC), two repeats of a proapoptotic peptide motif (KLAKLAK) and a GG linker. This peptide binds specifically to prohibitin in the white adipose vasculature; upon receptor-mediated cell internalization, the ligand/receptor complex triggers apoptosis and results in ablation of white fat. Destruction of white fat may potentially have positive consequences for men with prostate cancer since a high level of white fat has been implicated as a critical contributing factor in poor prostate cancer outcome. Prohibitin, a multifunctional membrane-associated protein that is thought to regulate cell survival and growth, has been shown by immunohistochemical analysis to be expressed in the membrane of endothelial cells in white adipose tissue.