

CPP 結合ペンダント型ゼルンボンの合成とそれらのがん細胞増殖抑制効果

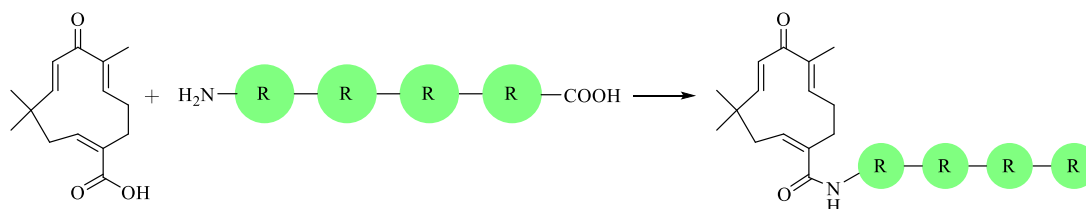
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Antiproliferative effects of cell-penetrating peptide-zerumbone conjugates on cancer cell lines (Graduate School of Agriculture, Kindai University) ○Kurumi Isaka, Gengo Kashiwazaki, Takashi Kitayama

Zerumbone is the major component of the essential oil of wild ginger, *Zingiber zerumbet* Smith. The characteristics include the wide range of bioactivities such as antitumor, anti-inflammatory and antioxidant effects¹. Herein, we focused on its antiproliferative activity on the T-cell lymphoid Jurkat cell line, and attempted to improve it by enhancing the cell permeability². Oligoarginine (R2–R8) was chosen for this purpose, and synthesized by Fmoc solid-phase peptide synthesis³. The number of arginine in CPP conjugated to zerumbone was optimized from the cytotoxicity assay against Jurkat cells (Scheme 1).

Keywords : Zerumbone; CPP; Jurkat cell

我々はこれまでにペンダント型ゼルンボンの開発に成功し, Jurkat 細胞を用いて細胞増殖抑制活性を評価した結果, 多くの化合物で活性の向上が見られた¹⁻²。この活性向上の要因の一つに, 細胞膜透過性の影響が考えられる。そこで, 膜不透過性の分子を細胞内へ送達できる Cell-Penetrating Peptide (CPP)を用い³, CPP 結合ペンダント型ゼルンボンを合成することでがん細胞増殖抑制効果を評価することとした(Scheme 1)。



Scheme 1. Synthesis of CPP conjugated to zerumbone derivatives

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