OP-01

Synthesis and Evaluation of Acyl Chain- and Galactose 6'- Modified Analogs of α-GalCer for NKT Cell Activation

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α-GalCer is an immunostimulating glycolipid which is known to bind to CD1d molecule and activate invariant natural killer T (*i*NKT) cells. Herein, we report the synthesis and *in vitro* evaluation of α-GalCer analogs with modification at the acyl side chain or/and galactose-6' position. Substitutions at galactose-6' of α-GalCer had a dominant effect on the NKT and T cell receptor (TCR) recognition, remarkably Gal 6'-phenylacetamide substituted with either *p*-nitro-, *p*-tert-butyl, or (*o*, *m*)-methyl were four times more selective for T helper 1 (T_H1) cytokine secretion against α-GalCer. These new glycolipids may find use as adjuvants or as antimetastatic agents.