新規な GPR55 リガンドの開発に向けたスクアリル基修飾型糖脂質類縁体の系統的合成

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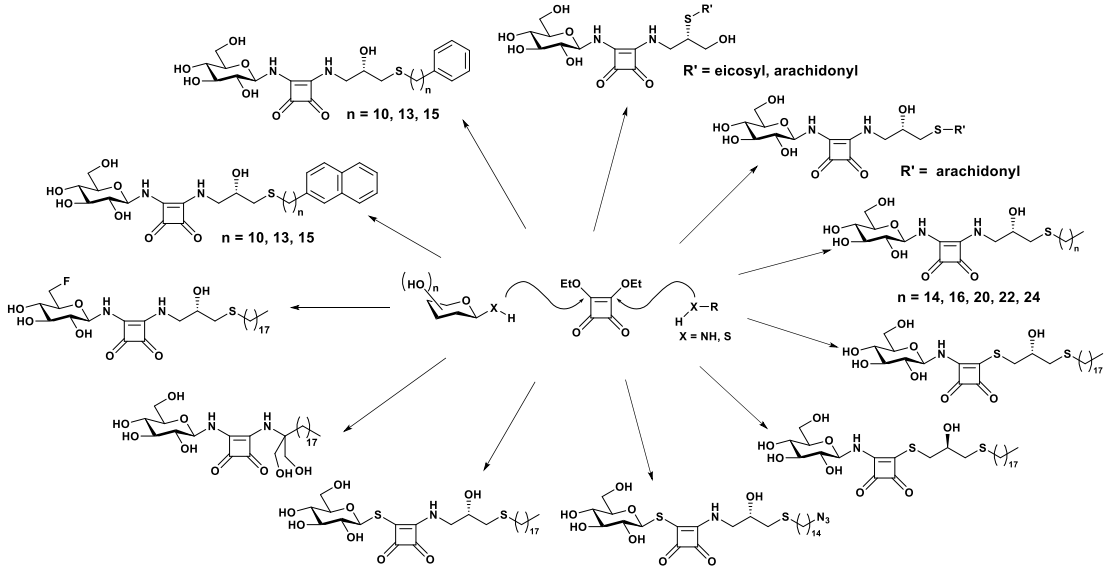
Systematic Synthesis of Squaryl Group Modified Glycolipid Analogues as Potential Ligands of GPR55 ([1]*Grad. Sch. Sci., Osaka Univ.*, [2]*RIKEN CBS*, [3]*Sch. Pharm. Sci., Sun Yat-sen Univ.*, [4]*RIKEN CPR*, [5]*Grad. Sch. Sci. PRC, Osaka Univ.*) ○Junpei Abe[1], Adam Tsuda Guy[2], Feiqing Ding[3], Peter Greimel[2], Yoshio Hirabayashi[4], Hiroyuki Kamiguchi[2], Yukishige Ito[1,4,5]

A G protein-coupled receptor GPR55, is known to play various biological roles and promising as a pharmaceutical target. As it is known to recognize lysophosphatidyl-β-D-glucoside (LPGlc) as endogenous agonist, our group has developed novel LPGlc analogues possessing a squaryldiamide group as a surrogate of phosphodiester which showed similar activity to LPGlc. These compounds can be obtained in a highly facile manner because the synthesis can be carried out without recourse of protection/deprotection of the sugar component. We applied this method to systematically create various analogues of LPGlc as potential agonists or antagonists of GPR55.

Keywords : GPR55; lysophosphatidyl-β-D-glucoside; squaryl diamide

創薬標的として重要な GPR55 は、リゾホスファチジルグルコシド(LPGlc)を内因性アゴニストの１つとする G タンパク質共役型受容体である[1)]。我々はリン酸ジエステル基をスクアリルジアミド基で置換した類縁体が LPGlc と類似の活性を示すことを見出した[2)]。その合成では糖・側鎖アルキル基の保護・脱保護工程なしに最終物を得ることができる。これを広範な GPR55 リガンド候補となる LPGlc 類縁体合成に展開した[3), 4)]。



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