Protocol

Vaccine Adjuvants

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Syntheses of Human TLR8-Specific Small-Molecule Agonists

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Abstract

Human toll-like receptor (hTLR)-8 is expressed in myeloid dendritic cells, monocytes, and monocyte-derived dendritic cells. Engagement by TLR8 agonists evokes a distinct cytokine profile which favors the development of type 1 helper T cells. Focused exploration of structure-activity relationships in the imidazoquinolines has led to the identification of several novel human TLR8-specific agonists. The synthetic procedures for best-in-class analogues encompassing four chemotypes are described.

Key words

TLR8 TLR8 agonists Vaccine adjuvants Innate immunity

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