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Reltecimod sodium synthesis optimization

Kaghazian Hooman *, Zarei Zahra

1. Department of chemistry, Paya Fan Yakhteh Alborz, Company, Tehran, Iran. Zahra.zarei1996@gmail.com
2. Department of Research and Development, Research & Production Complex, Pasteur Institute of Iran, Tehran. Kaghazianh@Pasteur.ac.ir.

Abstract

Reltecimod Sodium Acetate is a salt of the synthetic peptide (H-D-Ala-Ser-Pro-Met-Leu-Val-Ala-Tyr-Asp-D-Ala-OH) binds and modulate CD28 co-stimulatory receptor that provides protection from bacterial super antigen toxins and from lethal bacterial infections in experimental models of a wide range of bacterial pathogens (both Gram positive and Gram negative. The sequences were synthesized at room temperature on 2-CTC resin with HATU activation using an orbital shaker. Amide bond formation was performed in 60 minute, and Fmoc group were removed in 30 minute with 25% (v/v) piperidine in DMF, after completion of synthesis, the resin-peptide were washed with DMF (3×), The peptide is separated by performing the following steps: first of all adding dichloromethane and MeOH and then dried by Filtration system, after that we use cleavage solution including: TFA, TES, Me OH, the solution under the filter is separated and most of it is removed by rotary evaporator and the remaining solution is added to the cold diethyl ether and the white precipitate was collected. We did purification by Preparative HPLC (c_{18} column). The synthesis of the final material was confirmed with high yield by HPLC, mass spectrometry.

Key words: Optimization , peptide synthesis, Reltecimod Sodium, chemical synthesis

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