

Abstract

# Synthesis Of Lactam Modulators Of The Interleukin-1 Receptor For Delaying Labor And Improving Neonatal Outcomes

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**Abstract:** Interleukin-1 $\beta$  (IL-1 $\beta$ ) is a central pro-inflammatory cytokine. On binding to its receptor (IL-1R), IL-1 $\beta$  plays roles in labor, inflammation and immune response against invading pathogens. Premature birth occurs in about 10% of all births worldwide and may lead to morbidity and long-term health problems. The inflammatory component of premature birth may be harmful to the newborn. Although current therapeutic interventions may delay birth, they have no effect on inflammation. Our presentation will focus on the IL-1R modulating peptide **101.10** (H-D-Arg-D-Tyr-D-Thr-D-Val-D-Glu-D-Leu-D-Ala-NH<sub>2</sub>), which delays labor and curbs inflammation without effect on immune vigilance. Employing lactams analogues of **101.10**, information has been obtained regarding the active conformation. Moreover, lead lactam analogs offer promise for delaying labor and improving neonatal outcomes [1-2].

## References:

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2. Geranurimi, A.; Cheng, C. W. H.; Quiniou, C.; Côté, F.; Hou, X.; Lahaie, I.; Boudreault, A.; Chemtob, S.; Lubell, W. D. Interleukin-1 Receptor Modulation Using  $\beta$ -Substituted  $\alpha$ -Amino- $\gamma$ -Lactam Peptides From Solid-Phase Synthesis and Diversification. *Front. Chem.* **2020**, *8* (1182).