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PERSPECTIVE ARTICLE

Predictive the effect of alpha-alumina Nanoparticle conjugates with RP 73401 in induction autophagy and inhibit of Th2 and Eosinophil Activation in Allergic Asthma

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Autophagy is a cellular pathway facilitating several critical functions. First, autophagy is a major pathway of degradation. It enables elimination of pathogens that have invaded intracellular compartments. In addition, it promotes degradation of damaged cellular content, thereby acting to limit inflammatory signals. Second, autophagy is a major trafficking pathway, shuttling content between the cytosol and the lysosomal compartment. By this way; autophagy can has significant and sometimes unexpected consequences on mechanisms that initiate robust immunity, including pathogen elimination, inflammatory cytokine production, antigen processing and T and B lymphocyte immunity. On the other hand, autophagy induction by several nanoparticles (gold, FeO2, Mg…). Alpha-Alumina has been introduces as a new autophagy inducers which has been less toxicity compared to other nanoparticles. In this study, we focus that conjugate the alpha alumina nanoparticles with RP 73401 that is Eosinophils inhibitor (1, 2). After nanoparticle conjugate RP 73401 which is incubated with dendritic cells and T lymphocytes with nanoparticle entrance to dendritic cells, in inside of dendritic cells autophagy are beginning. By this way prospect that activated autophagy pathway lead to inactivated Th2 and Eosinophilsin respiratory tract and inhibit from allergic asthma.Therefore, this method can be further completed and launched, as well as upgrade related research, this method can be used for the control and treatment of allergic asthma.

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