THERAPEUTIC ANNEXIN COMPOSITION OF REDUCED OFF-TARGET EFFECTS

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HINTERGRUND

Annexins are currently under investigation for their therapeutic potential in diseases like chronic inflammatory and autoimmune disorders, allergy and cancer vaccination as well as cardiovascular diseases. Common to most of these therapeutic annexin applications is the use of a soluble annexin-preparation. However, in addition to desired binding to specific receptor(s), soluble annexin is known to bind to negatively charged phospholipids such as phosphatidylserine. Thus, high background binding and off-target effects are often observed for soluble annexin preparations when administered in vivo due to PS expression on various cellular and vascular surfaces. Soluble annexin typically binds randomly to membranes comprising negatively charged phospholipids and does not selectively bind to target receptors on target cells. These off-target effects reduce the effective annexin concentration drastically, prompting the administration of very high annexin doses. Moreover, high annexin dosages often lead to undesired side effects, e.g. induction of vascular leakage by reduced coagulation.

LÖSUNG

In the field of therapeutic use of annexins our formulation raises the effective concentration. With a more precise dosage of the drug and fewer side effects the patient suffers less, and production costs can be reduced. We expect that annexin doses can be reduced up to 10,000x when applied in the provided composition.