

Therapeutic annexin composition of reduced off-target effects

Keywords

- **annexin preparation** and/or a product that has the therapeutic efficacy of annexin
- annexin preparation that exhibits **lower off-target binding** and thus
- has a **higher effective annexin concentration** than a soluble annexin preparation

Abstract

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.

Development Stage

The method is currently applicable at research laboratory scale.

The Technology

We provide an easy annexin preparation that exhibits lower off-target binding and thus has a higher effective annexin concentration for binding to target receptors

than soluble annexin. The innovative composition is well established and can easily be implemented in any laboratory. Employing such preparations in our experiments we have measured receptor-mediated effects **10,000x higher** compared to soluble annexin.

Applications and Commercial Opportunity

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.

We offer licensing and cooperation.

Inventors

The investigators are:
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Intellectual Property

EP19156258.

Further Information

No other public information is currently available, but further information (speaking with the inventor) is available under a signed Confidential Disclosure Agreement (CDA).

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References:

Not published

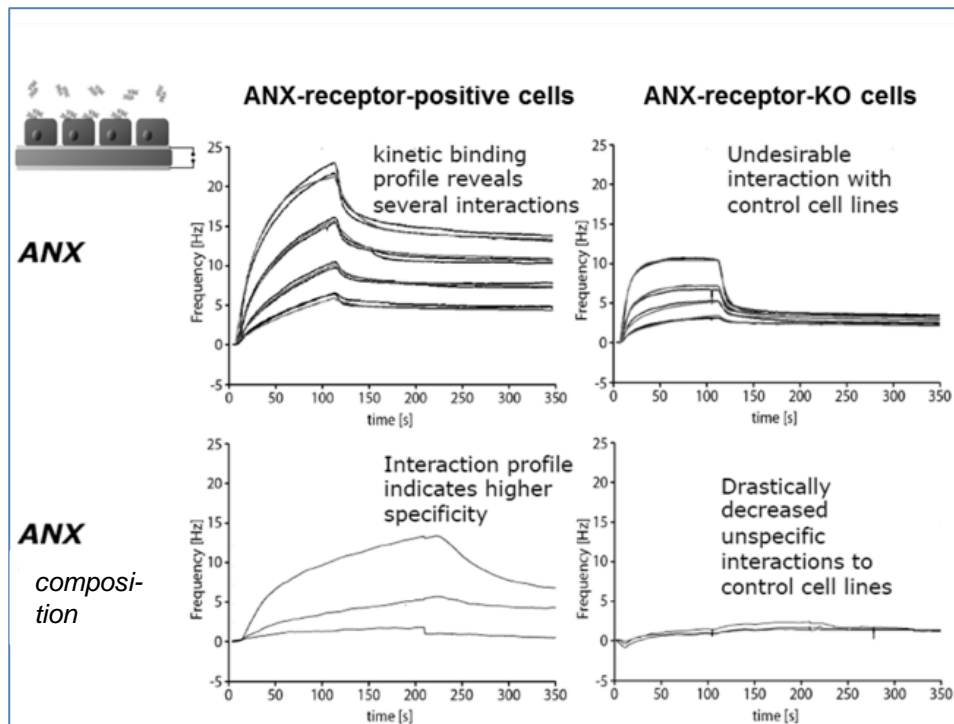


Figure. Annexin preparations specifically bind to a proteinaceous target ANX-receptor on cellular surfaces