

Peer Review

Review of: "Phosphatidylserine (PS)-Targeting Chimeric Interferon (IFN) Fusion Proteins for Anti-Tumour Applications"

Nahid Ali¹

1. Indian Institute of Chemical Biology, Kolkata, India

In this manuscript entitled "Phosphatidylserine (PS)-Targeting Chimeric Interferon (IFN) Fusion Proteins for Anti-Tumour Applications" the authors have utilized PS exposure on cancer cells to target the tumour microenvironment to induce an immunogenic immune response. For this, they have fused IFN- β and IFN- γ into a single polypeptide for improved activities. For specific targeting, they next fused the chimeric proteins to the Gla and EGF domains of Gas-6, which specifically binds to PS. The IFN fusion protein shows antiviral activity. In vivo, they activate immune pathways. When fused with Gas-6, it enhances anti-tumour activities. The exposure of PS on apoptotic cells, live cancer cells, and the tumour environment serves as an attractive handle to specifically target them through PS-targeting monoclonal antibodies, small molecules, nanovesicles, and liposomes. This study, in addition, provides an immunogenic payload in the form of IFN fusion proteins that enhance antiviral and anti-tumour immune responses. While the study is well designed and executed, I have a few comments.

1. Since the aim of the study is to alter the immunosuppressive response into enhanced immune outcomes, the in vivo anti-tumour response should have been accompanied by cytokine estimations demonstrating this reversal.
2. Provide the number of animals used per group in all the in vivo studies and p-values in the figure legends.

Declarations

Potential competing interests: No potential competing interests to declare.