



Phospholipid Research Center

Invitation to a webinar

Wednesday, February 22, 2023 at 3:30 pm (CET)

Prof. Dr. Jai Prakash, University of Twente, the Netherlands

“Harnessing phospholipid immune cells interactions to target the tumor microenvironment”

An increasing number of studies show the significance of the tumor microenvironment in inducing tumor progression, metastasis and development of resistance. Tumor immune cells such as tumor-associated macrophages (TAMs) control several tumor-progressing mechanisms. Therefore, strategies to target these cells to molecularly edit them are essential to develop anti-cancer therapeutics. TAMs actively interact with different cells, as their biological function, to detect and eliminate them. They recognize cellular surface components such as phospholipids, which are the crucial component of the cell membrane, via different scavenger receptors. We have designed strategies to target TAMs by learning from their scavenging mechanisms. We found that SRB1 receptor was upregulated in M2-type TAMs. To target this receptor, we incorporated a carboxylated phospholipid in the bilayer of liposomes and demonstrated that this lipid bound to SRB1 receptor by flipping the tail. In vivo, the targeted liposomes accumulated into M2-TAMs in breast tumor model in mice. Furthermore, delivery of muramyl tripeptide using the liposomes re-programmed TAMs to inhibit the tumor progression and pre-metastatic niche formation. In conclusion, specific phospholipids can serve as ligands for targeting macrophages and likely other immune cells in the tumor microenvironment and other diseases.

To register for this webinar, visit our website or scan the QR code

<https://www.phospholipid-research-center.com/event/webinar-february-2023-prof-prakash/>



All interested parties are cordially invited!