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THE COVER ILLUSTRATION shows a proposed scheme for polymeric nanoparticle-mediated activation of lectin pathway of the complement system. Many engineered nanoparticles incite complement through lectin pathway, but these nanoparticles inherently do not express surface-exposed sugars. The projected polymeric surface architecture of these nanoparticles (right panel) may transiently resemble structural motifs of peptidoglycan constituents of pathogens, comprising clusters of mannose and N-acetyl-D-glucosamine, thus making them prone to detection by complement pattern recognition molecules such as mannose binding lectin (MBL) and ficolins, resulting in activation of lectin pathway of the complement system. Mechanistic understanding of these issues is important for future design of immune-safe nanomedicines.

For more information on this topic please read the commentary on Insidious pathogen-mimicking properties of nanoparticles in triggering the lectin pathway of the complement system by S. Moein Moghimi, Peter P. Wibroe, Linping Wu and Z. Shadi Farhangrazi on pages 263-268 of this issue. Copyright holders of the image: S. Moein Moghimi, Peter P. Wibroe, Linping Wu, Nanomedicine Research Group and Centre for Pharmaceutical Nanotechnology and Nanotoxicology, Department of Pharmacy and NanoScience Centre, University of Copenhagen, Universitetsparken 2, DK-2100 Copenhagen Ø, Denmark and Z. Shadi Farhangrazi, Biotrends International, Denver Technological Center, Greenwood Village, CO, USA; contact: moien.moghimi@sund.ku.dk



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