Workpackage 3a

WP 3a: New Biomarker-ligand and antibody detection and development: Targets, antibodies and peptides

Leader: Lund University, Department Experimental Medical Science

The overall objective of WP 3a is the development of new molecular indicators that identifiy specific cell surface structures of cells active in tissue responses and in inflammtion as well as protein epitopes exposed in disease tissue and created by the pathological process. Such moclecular indicators will be used in diagnostic approaches and will lay the ground for specific targeting of nanoparticles.

Objectives:

1. To identify cleavage sites in cartilage and tendon proteins from patients with joint disease and develop antibodies to specifically detect and target these unique cleavage site neo-epitopes.
2. To identify proteins enriched in the joint tissues as a result of disease and develop antibodies to specifically detect these proteins.
3. To develop cellular targeting of SPION by identifying active domains of extracellular matrix proteins mediating interactions with cell surface receptors including integrins, specific glycosaminoglycan chains of the proteoglycan syndecan and receptors of inflammatory responses.
4. To identify and develop active domains of matrix proteins specifically binding to other matrix constituents for targeting SPION to specific tissues and tissue structures.

Participants

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