Docket #: S24-417

Biomarker for Osteoarthritis Detection

Stanford scientists have discovered a previously unrecognized blood immune cell marker for osteoarthritis (OA) early detection.

OA is a debilitating disease lacking effective early detection tools or disease-modifying treatments, in part due to poor biomarker availability and late-stage identification. The novel biomarker is a unique population of memory B cells that are unusually abundant in the blood of individuals with OA or degenerative meniscal tears (which are known to increase OA risk).

This biomarker can be identified through advanced profiling of circulating immune cells, potentially offering the foundation for future non-invasive blood-based screening tools.

Stage of Development: Proof of concept

Applications

- Early detection of osteoarthritis risk using blood profiling
- Patient stratification for clinical trials or personalized medicine
- Development of targeted therapies or monitoring tools informed by new disease biology

Advantages

- Non-invasive: uses standard blood samples for cell profiling
- New biological insight: potential for future diagnostic innovation
- Robust discovery: validated across independent groups and multiple technical platforms

Patents

- Published Application: WO2026085272

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