

大学院特別講義

(医歯学先端研究特論)

(生命理工医療科学先端研究特論)(医歯理工学先端研究特論)

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記

演題 : The tendon whisperer: tendon repair process
and the roles of tenomodulin

講師 : Department of MSK Tissue Regeneration, Orthopaedic
Hospital König-Ludwig-Haus, University of Würzburg
Professor Denitsa Docheva

日時 : 2026年 2月10日(火) 17:00~19:00

場所 : M&D タワー 9階 大学院講義室4

要旨 : Tendons are matrix-dominated tissues capable of withstanding tremendous pulling forces, making injuries possible even with low-energy causation. Managing tendon ruptures and healing presents numerous challenges to modern medicine. Tendon ruptures can result from overuse, sports or accident trauma, and tendinosis—a multifactorial and multifaceted degenerative process affecting tendon tissue. Despite decades of medical and scientific advancements, no tendon-specific drug or large-scale approved cell- or biomaterial-based therapy currently exists to expedite tendon repair. In this talk, I will discuss the socioeconomic burden of tendon ruptures and provide background on the tendon healing process. I will focus on a particular gene, Tenomodulin (Tnmd). After generating a Tnmd knockout mouse strain, we systematically investigated the roles of this protein, primarily in Achilles tendon tissue. I will present a summary of our findings on Tnmd's role in the early and late stages of tendon repair. Based on our findings, we suggest that Tnmd acts as a fine-tuning factor in adult tendon tissue, enabling dose-effect modeling, and may potentially inspire the development of tendon-specific drugs.

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