

# 식물생명공학과

# 초청 세미나

**Title: Development and applications of ssDNA Aptamer**



**강의 일정**

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**강의 장소**

생명과학관 서관 335호

**초청 연사**

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소속: 대구경북첨단의료산업진흥재단 (K-MEDI hub)

K-MEDI Hub has developed a comprehensive R&D infrastructure that integrates leading experts, cutting-edge technologies, and state-of-the-art facilities, supporting the entire lifecycle of medical device development, from concept to commercialization. Their focus includes the development and commercialization of diagnostic medical devices, emphasizing the accuracy, sensitivity, and specificity of diagnostic tools. This involves development of aptamer-based diagnostic assays and molecular diagnostic methods such as loop-mediated isothermal amplification (LAMP) and CRISPR/Cas diagnosis for Point-of-Care Test (POCT) platforms. Aptamers, single-stranded DNA or RNA sequences, bind specifically to target molecules and offer advantages over antibodies: they are synthesized artificially, easily modified, and do not require animal or cell lines. Their stability and consistency ensure uniformity across production batches, essential for precise and consistent target recognition in diagnostics and therapeutics. LAMP, a POCT sensor, is notable for its speed and minimal equipment requirements. A device was developed to quantify color changes in LAMP assays, ensuring objective interpretation. This innovative platform enhances the diagnostic process for viral hemorrhagic septicemia (VHS) in aquaculture, demonstrating significant advancements in diagnostic and therapeutic technologies.