

From UV-Induced DNA Damage to Epigenome Editing: Molecular Strategies for Skin Cancer Prevention and Treatment

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- **Viernes 2 de Octubre a las 14 horas**
- **Aula: RFP 3er piso DQIAQF/INQUIMAE**
- **Streaming por el canal de YouTube del DQIAyQF**

Resumen

Ultraviolet (UV) radiation causes DNA damage that can lead to skin cancer. Our work examines how cells respond to UV-induced DNA damage and how these responses can be targeted for prevention and treatment. We identified ATR kinase as an important target of caffeine and found that 6-4 photoproducts are major triggers of UV-induced replication stress. We also use CRISPR-based epigenome editing to reactivate silenced tumor suppressor genes, including CDKN2A/p16, and inhibit cancer cell growth. Together, these studies connect UV-induced DNA damage with emerging molecular strategies for skin cancer prevention and treatment.

Biography

Masaoki Kawasumi, MD, PhD, is an Associate Professor of Dermatology at The Ohio State University College of Medicine. His research focuses on the molecular mechanisms of UV-induced DNA damage, cellular stress responses, and skin carcinogenesis, as well as emerging approaches to cancer prevention and treatment using epigenome editing. He received his MD and PhD from Keio University School of Medicine and completed postdoctoral training at Massachusetts General Hospital and the University of Washington. Dr. Kawasumi currently serves as President-Elect of the American Society for Photobiology.