

6TH WORLD FORUM ON BREAST AND CERVICAL CANCER



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Immunomodulatory Role of Ginkgolide B in Oral Cancer via the SREBP1/KLK8/CCL22 Pathway

Regulatory T cell (Treg) infiltration is linked to poor prognosis in oral cancer. This study explored the immunomodulatory effect of Ginkgolide B (GB) through the SREBP1/KLK8/CCL22 axis. Bioinformatic analyses of public datasets and tissue arrays revealed that high SREBP1 expression correlated with worse survival and was positively associated with KLK8 and CCL22 levels. Functional assays in SAS, KYSE-510, and TE-1 cells demonstrated that GB suppressed sterol biosynthesis, downregulated SREBP1, inhibited KLK8 promoter activity, reduced CCL22 secretion, and consequently limited Treg migration. In vivo, using an orthotopic MOC-2 model, both GB treatment and SREBP1/KLK8 knockdown significantly suppressed tumor growth, CCL22 expression, and Treg infiltration, whereas pharmacologic activation of SREBP reversed these effects. Collectively, these findings indicate that GB disrupts SREBP1-driven KLK8 transcription, thereby reducing CCL22-mediated Treg recruitment, and highlight GB as a potential immunotherapeutic strategy for oral cancer.

Keywords

Oral cancer, Ginkgolide B, Sterol regulatory element-binding protein 1, Tregs

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Biography

Dr. Liu received her degree in Traditional Chinese Medicine from China Medical University, Taiwan, in 2013. She currently serves as a visiting staff member in the Department of Traditional Chinese Medicine at Chang-Bing Show-Chwan Memorial Hospital. She is also a Ph.D. candidate in Translational Medicine at National Chung Hsing University. Her research focuses on the clinical application and development of traditional Chinese medicine. She has published in Phytomedicine, including the article “Attenuation of in vitro and in vivo melanin synthesis using a Chinese herbal medicine through the inhibition of tyrosinase activity.”