

# Uji Gores pada Kultur Sel Human Gingival Fibroblast (HGF) dengan Paparan 5-Fluorouracil dan Pemberian Probiotik *Lactococcus lactis* subspecies *lactis* strain Y-PDH05 = Wound Healing Scratch Assay on Human Gingival Fibroblasts Cell Culture with 5-Fluorouracil Exposure and *Lactococcus lactis* subspecies *lactis* strain Y-PDH05 Administration

Firda Nurul Afiah, author

Deskripsi Lengkap: <https://lib.ui.ac.id/detail?id=9999920567313&lokasi=lokal>

---

## Abstrak

Latar Belakang: Mukositis oral adalah peradangan di rongga mulut yang terjadi sebagai efek samping dari tindakan kemoterapi pada pasien kanker. Pada penelitian ini, sel Human Gingival Fibroblasts (HGF) diberikan paparan agen kemoterapi 5-Fluorouracil yang kemudian diberikan perlakuan probiotik *Lactococcus lactis* subspecies *lactis* strain Y-PDH05 dan supernatan dari probiotik tersebut yang diharapkan mampu mempercepat proses penyembuhan luka. Kemampuan penyembuhan luka probiotik dan supernatan *Lactococcus lactis* subspecies *lactis* strain Y-PDH05 akan diuji melalui uji gores (scratch) untuk mengukur efektivitas probiotik *Lactococcus lactis* subspecies *lactis* strain Y-PDH05 dalam mempercepat penyembuhan luka. Tujuan: Menganalisis kemampuan penyembuhan luka pada sel Human Gingival Fibroblasts (HGF) yang dipaparkan 5-Fluorouracil dan diberikan perlakuan probiotik dan supernatan *Lactococcus lactis* subspecies *lactis* strain Y-PDH05. Metode: Sel Human Gingival Fibroblasts (HGF) dipaparkan 5-Fluorouracil kemudian diberikan perlakuan probiotik dan supernatan dari *Lactococcus lactis* subspecies *lactis* strain Y-PDH05. Selanjutnya analisis kemampuan penyembuhan luka melalui uji gores (scratch). Hasil: Perlakuan dengan paparan 5-Fluorouracil dan probiotik *Lactococcus lactis* subspecies *lactis* strain Y-PDH05 konsentrasi rendah menunjukkan hasil terbaik dan signifikan dalam mempercepat penyembuhan luka ( $p < 0,05$ ). Sedangkan, perlakuan lain tidak menunjukkan perbedaan yang signifikan. Kesimpulan: Terdapat pengaruh kemampuan penyembuhan luka pada kultur sel Human Gingival Fibroblast (HGF) yang dipaparkan 5-FU dan diberikan probiotik *Lactococcus lactis* subspecies *lactis* strain Y-PDH05 berdasarkan uji gores (scratch).

.....Background: Oral mucositis is an inflammation of the oral cavity that occurs as a side effect of chemotherapy in cancer patients. In this study, Human Gingival Fibroblasts (HGF) cells were exposed to the chemotherapy agent 5-Fluorouracil which was then treated with the probiotic *Lactococcus lactis* subspecies *lactis* strain Y-PDH05 and the supernatant of the probiotic which is expected to accelerate the wound healing process. The wound healing ability of the probiotic and the supernatant of *Lactococcus lactis* subspecies *lactis* strain Y-PDH05 will be evaluated through a scratch assay to measure the effectiveness of the probiotic *Lactococcus lactis* subspecies *lactis* strain Y-PDH05 in accelerating wound healing. Objective: To analyze the wound healing ability of Human Gingival Fibroblasts (HGF) cells exposed to 5-Fluorouracil and treated with probiotic and supernatant of *Lactococcus lactis* subspecies *lactis* strain Y-PDH05. Method: Human Gingival Fibroblasts (HGF) cells were exposed to 5-Fluorouracil and then treated with probiotics and supernatant from *Lactococcus lactis* subspecies *lactis* strain Y-PDH05. Furthermore, analysis of wound healing ability through scratch assay. Results: Treatment with exposure to 5-Fluorouracil and probiotic *Lactococcus lactis* subspecies *lactis* strain Y-PDH05 at low concentrations showed the best and significant results in accelerating wound healing ( $p < 0.05$ ). Meanwhile, other treatments did not show significant

difference. Conclusion: There is an effect of wound healing ability on Human Gingival Fibroblast (HGF) cell culture exposed to 5-FU and given probiotic *Lactococcus lactis* subspecies *lactis* strain Y-PDH05 based on scratch assay.