Tesis

PENGARUH PEMBERIAN KATEKIN GAMBIR (*Uncaria gambir roxb*.) TERHADAP EKSPRESI GEN ENZIM TIROSINASE PADA *CELL LINE MOUSE* MELANOMA B16F10

MIMIN OKTAVIANA

1650308205

PEMBIMBING

1. **Dr.dr.Satya Wydya Yenny, SpKK(K), FINSDV, FAADV**
2. **dr. Ennesta Asri, SpKK(K), FINSDV**

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PENGARUH PEMBERIAN KATEKIN GAMBIR (*Uncaria gambir roxb*.) TERHADAP EKSPRESI GEN ENZIM TIROSINASE PADA *CELL LINE MOUSE* MELANOMA B16F10

Mimin Oktaviana, Satya Wydya Yenny, Ennesta Asri

Abstrak

Latar belakang

Gambir merupakan salah satu bahan alam yang banyak ditemukan di Sumatera Barat, mengandung katekin lebih tinggi dibanding teh hijau. Berbagai penelitian menyatakan katekin berperan dalam menghambat proses melanogenesis, terutama menghambat ekspresi gen enzim tirosinase. Belum ada penelitian tentang pengaruh pemberian katekin gambir terhadap ekspresi gen enzim tirosinase.

Tujuan

Untuk membuktikan pengaruh pemberian katekin gambir terhadap ekspresi gen enzim tirosinase pada *cell line mouse* melanoma B16F10

Subjek dan metode

Penelitian ini merupakan penelitian eksprerimental dengan *post test control group design*. *Cell line mouse* melanoma B16F10 diberi perlakuan dengan konsentrasi 0µM (kontrol), 10µM dan 20µM. Dinilai ekspresi gen enzim tirosinase dengan PCR setelah 24 jam, 48 jam dan 72 jam.

Hasil

Ekspresi gen enzim tirosinase pada konsentrasi 0µM (kontrol), 10µM dan 20µM masing-masing adalah 1,30, 2,44 dan 2,45 setelah 72 jam. Terdapat kecenderungan peningkatan ekspresi gen pada kontrol dan perlakuan, namun tidak bermakna secara statistik ($p>0,05$). Tidak didapatkan data ekspresi gen pada jam ke 24 dan 48, kemungkinan karena terjadi degradasi mRNA sehingga tidak mengekspresikan DNA.

Diskusi

Tidak adanya pengaruh pemberian katekin pada penelitian ini disebabkan karena katekin gambir tidak mempengaruhi level transkripsi gen enzim tirosinase. Perbedaan hasil penelitian katekin gambir dengan katekin teh hijau kemungkinan disebabkan berbedanya struktur kimia katekin, komposisi subekstrak dan konsentrasi dari katekin tersebut.

Simpulan

Tidak terdapat pengaruh pemberian katekin gambir terhadap ekspresi gen enzim tirosinase pada cell line mouse melanoma B16F10.

Kata kunci: *herbal, melanogenesis*

EFFECT OF GAMBIR (*Uncaria gambir roxb)* CATECHIN ON THE TYROSINASE GENE EXPRESSION IN B16F10 MOUSE MELANOMA CELL LINE

Mimin Oktaviana, Satya Wydya Yenny, Ennesta Asri

Abstract

Background

Gambir is one of the most natural ingredients found in West Sumatra, containing higher catechin than green tea. Various studies suggest catechin play role in inhibiting the process of melanogenesis, especially in inhibiting tyrosinase gene expression. There has been no research which asses the effect of gambir catechin on the tyrosinase gene expression.

Aim

To prove the effect of gambir catechin on the tyrosinase gene expression in B16F10 mouse melanoma cell line.

Subjects dan methods

This is an experimental study with post test control group design. B16F10 mouse melanoma cell line treated with 0 µM (control), 10 µM dan 20 µM of gambir catechin. Tyrosinase gene expression were asses using PCR within 24 hours, 48 hours and 72 hours.

Result

Tyrosinase gene expression level after treated with 0 µM (control), 10 µM dan 20 µM within 72 hours were 1,30, 2,44 and 2,45 respectively. There was a tendency for increased gene expression in controls and treatments, but it was not statistically significant ($p > 0.05$). No gene expression data were obtained at 24 and 48 hours, possibly due to degradation of mRNA.

Discussion

The lack of effect of catechin administration in this study was due to the fact that gambir catechins did not affect the level of transcription of the tyrosinase gene. The difference in the results of gambir and green tea catechin research might be due to the different chemical structures, composition of the extracts and concentration of these catechins.

Conclusion

There were no effect of gambir catechin on the tyrosinase gene expression in B16F10 mouse melanoma cell line.

Key word: *herbal, melanogenesis*