

## DAFTAR ISI

HALAMAN JUDUL.....	i
HALAMAN PENGESAHAN.....	ii
HALAMAN PERNYATAAN .....	iii
PRAKATA.....	iv
DAFTAR ISI.....	vii
DAFTAR GAMBAR .....	ix
DAFTAR LAMPIRAN.....	x
DAFTAR LAMBANG DAN SINGKATAN .....	xi
ABSTRACT.....	xiii
INTISARI.....	xiv
BAB I PENDAHULUAN .....	1
I.1. Latar Belakang .....	1
I.2. Rumusan Masalah .....	5
I.3. Tujuan Penelitian .....	5
I.3.1. Tujuan Umum.....	5
I.3.2. Tujuan Khusus.....	5
I.4. Keaslian Penelitian.....	5
I.5. Manfaat Penelitian .....	7
BAB II TINJAUAN PUSTAKA.....	9
II.1. Tinjauan Pustaka.....	9
II.1.1. Hepar .....	9
a. Anatomi Hepar .....	9
b. Fisiologi Hepar .....	10
c. Histologi Hepar.....	11
d. Fibrosis Hepar .....	12
e. <i>Serum Glutamic Pyruvic Transaminase (SGPT)</i> .....	16
II.1.2. Asam Klorogenat (CGA) .....	18
II.1.3. Karbon Tetraklorida (CCl <sub>4</sub> ).....	20
II.2. Landasan Teori .....	21
II.3. Kerangka Teori .....	23
II.4. Kerangka Konsep.....	24
II.5. Hipotesis Penelitian .....	25

BAB III METODE PENELITIAN.....	26
III.1. Jenis dan Rancangan Penelitian .....	26
III.2. Waktu dan Tempat Penelitian .....	26
III.3. Variabel Penelitian .....	26
III.4. Definisi Operasional.....	27
III.5. Instrumen Penelitian.....	28
III.6. Tahapan Penelitian .....	30
III.6.1. Persiapan Hewan Coba .....	30
III.6.2. Perlakuan Hewan Coba.....	31
III.6.3. Terminasi .....	32
III.6.4. Ekstraksi RNA .....	32
III.6.5. Pembuatan cDNA .....	33
III.6.6. Pemeriksaan Ekspresi Kolagen Tipe I dengan RT-PCR .....	33
III.6.7. Elektroforesis .....	33
III.6.8. Pengukuran Kadar SGPT .....	34
III.7. Metode Analisis Data .....	34
BAB IV HASIL DAN PEMBAHASAN .....	36
IV.1. Hasil .....	36
IV.1.1. Ekspresi Kolagen Tipe I .....	36
IV.1.2. Kadar SGPT.....	38
IV.1.3. Korelasi Ekspresi Kolagen Tipe I dengan Kadar SGPT.....	40
IV.2. Pembahasan.....	42
BAB V KESIMPULAN DAN SARAN.....	50
V.1. Kesimpulan.....	50
V.2. Saran .....	50
DAFTAR PUSTAKA .....	51
LAMPIRAN.....	55

## DAFTAR GAMBAR

Gambar 1. Proses aktivasi HSC yang terdiri dari fase inisiasi, fase pengekalan dan fase resolusi (Friedman & Arthur, 2002) .....	15
Gambar 2. Kerangka teori .....	23
Gambar 3. Kerangka konsep .....	24
Gambar 4. Hasil densitometri ekspresi kolagen tipe I dan GAPDH.....	36
Gambar 5. Grafik hasil rata-rata ekspresi kolagen tipe I yang telah dinormalisasi dengan GAPDH .....	37
Gambar 6. Grafik hasil rata-rata kadar SGPT mencit pada setiap kelompok penelitian .....	39
Gambar 7. Grafik hasil uji statistik hubungan korelasi antara ekspresi kolagen tipe I dengan kadar SGPT .....	41

## DAFTAR LAMPIRAN

Lampiran 1. Keterangan kelaikan etik .....	55
Lampiran 2. Uji normalitas data ekspresi kolagen tipe I .....	56
Lampiran 3. Boxplot data ekspresi kolagen tipe I .....	56
Lampiran 4. Uji homogenitas data Levene ekspresi kolagen tipe I .....	57
Lampiran 5. Uji One-Way ANOVA ekspresi kolagen tipe I .....	57
Lampiran 6. Uji Post-hoc ekspresi kolagen tipe I .....	57
Lampiran 7. Uji normalitas data kadar SGPT .....	59
Lampiran 8. Boxplot data kadar SGPT .....	60
Lampiran 9. Uji homogenitas data Levene kadar SGPT .....	60
Lampiran 10. Uji normalitas data kadar SGPT sesudah dilakukan log transform	60
Lampiran 11. Uji homogenitas data Levene kadar SGPT sesudah dilakukan log transform .....	61
Lampiran 12. Uji One-Way ANOVA kadar SGPT sesudah dilakukan log transform .....	61
Lampiran 13. Uji Post-hoc kadar SGPT sesudah dilakukan log transform .....	62
Lampiran 14. Uji normalitas data hubungan korelasi ekspresi kolagen tipe I dan kadar SGPT .....	64
Lampiran 15. Uji <i>Nonparametric Correlations</i> Spearman ekspresi kolagen tipe I dan kadar SGPT .....	65
Lampiran 16. Berat badan mencit .....	66

## DAFTAR LAMBANG DAN SINGKATAN

ANOVA	= <i>Analysis of variance</i>
ALT	= <i>Alanine aminotransferase</i>
AST	= <i>Aspartate aminotransferase</i>
ATP	= <i>Adenosine triphosphate</i>
CCl <sub>4</sub>	= <i>Carbon tetrachloride</i>
cDNA	= <i>Complementary deoxyribonucleic acid</i>
CGA	= <i>Chlorogenic acid</i>
COX-2	= <i>Cyclooxygenase - two</i>
CYP2E1	= <i>Cytochrome P450 2E1</i>
DEPC	= <i>Diethylpyrocarbonate</i>
DMN	= <i>Dimethylnitrosamine</i>
DNA	= <i>Deoxyribonucleic acid</i>
dNTP	= <i>Deoxynucleotide triphosphate</i>
ECM	= <i>Extracellular matrix</i>
EDTA	= <i>Ethylenediaminetetraacetic acid</i>
EMT	= <i>Epithelial mesenchymal transition</i>
ER	= <i>Endoplasmic Reticulum</i>
ET-1	= <i>Endotheline - one</i>
GAPDH	= <i>Glyceraldehyde-3-phosphate dehydrogenase</i>
HCV	= <i>Hepatitis C virus</i>
HSC	= <i>Hepatic stellate cell</i>
IκB-α	= <i>Inhibit Kappa B - alpha</i>
IL	= <i>Interleukin</i>
INF-γ	= <i>Interferon gamma</i>
iNOS	= <i>Inducible nitric oxide synthase</i>
LPS	= <i>Lipopolysaccharide</i>
LSD	= <i>Least significant difference</i>
MCP-1	= <i>Monocyte chemotactic protein - one</i>
MFs	= <i>Myofibroblasts</i>
MMP	= <i>Matrix metalloproteinase</i>
MyD88	= <i>Myeloid differentiation primary response protein 88</i>
NaCl	= <i>Sodium chloride</i>
NASH	= <i>Nonalcoholic steatohepatitis</i>
NF-κB	= <i>Nuclear factor kappa B</i>
NK	= <i>Natural killer</i>
PBS	= <i>Phosphate-buffered saline</i>
PCR	= <i>Polymerase chain reaction</i>
PDGF	= <i>Platelet-derived growth factor</i>
Riskesdas	= <i>Riset kesehatan dasar</i>
RNA	= <i>Ribonucleic acid</i>
ROS	= <i>Reactive oxygen species</i>
RT-PCR	= <i>Reverse Transcriptase-Polymerase Chain Reaction</i>
SGOT	= <i>Serum glutamic oxaloacetic transaminase</i>

SGPT	= <i>Serum glutamic pyruvic transaminase</i>
TBE	= <i>Tris Borate EDTA</i>
TGF	= <i>Transforming growth factor</i>
TLR-4	= <i>Toll-like receptor - four</i>
TIMP	= <i>Tissue inhibitor of metalloproteinase</i>
TNF- $\alpha$	= <i>Tumor necrosis factor - alpha</i>
VEGF	= <i>Vascular endothelial growth factor</i>
WHO	= <i>World Health Organization</i>