

## DAFTAR ISI

Halaman Judul.....	i
Lembar Pengesahan .....	ii
Pernyataan.....	iii
Prakata.....	iv
Daftar Isi.....	vi
Daftar Tabel .....	viii
Daftar Gambar.....	ix
Arti Lambang dan Singkatan .....	x
Intisari .....	xi
<i>Abstract</i> .....	xii
BAB I PENDAHULUAN .....	1
I.1. Latar belakang .....	1
I.2. Perumusan Masalah .....	5
I.3. Tujuan Penelitian .....	6
I.4. Keaslian Penelitian.....	6
I.5. Manfaat Penelitian .....	9
BAB II TINJAUAN PUSTAKA.....	11
II.1. Tinjauan Pustaka.....	11
II.1.1. Diabetes Mellitus.....	11
II.1.2. Fibrosis Paru.....	13
II.1.3. Diabetes Mellitus dan Fibrosis Paru.....	14
II.1.4. <i>Transforming Growth Factor Beta 1 (TGF-β1)</i> .....	16
II.1.5. <i>Connective Tissue Growth Factor (CTGF)</i> .....	17
II.1.6. Kolagen Tipe 1 .....	18
II.1.7. <i>Alpha Smooth Muscle Actin (α-SMA)</i> .....	18
II.1.8. Asam klorogenat (CGA) .....	18
II.2 Landasan Teori .....	21
II.3 Kerangka Konsep.....	22
II.4 Hipotesis .....	22
BAB III METODE PENELITIAN.....	24
III.1. Jenis dan Rancangan Penelitian .....	24
III.2. Variabel Penelitian .....	24
III.2.1. Variabel Bebas .....	24
III.2.2. Variabel Terikat .....	24
III.2.3. Variabel Terkendali .....	24
III.3. Subyek Penelitian dan Definisi Operasional .....	24
III.3.1. Subyek Penelitian.....	24
III.3.2. Definisi Operasional .....	27
III.4. Bahan dan Alat Penelitian .....	28
III.4.1. Bahan .....	28

III.4.2. Alat.....	32
III.5. Jalannya Penelitian .....	33
III.5.1. Pemberian CGA pada Tikus Model Diabetes Mellitus.....	33
III.5.2. Terminasi Hewan Coba.....	33
III.5.3. Pemeriksaan <i>Reverse Transcriptase</i> PCR (RT-PCR) .....	34
III.5.4. Pengecatan Imunohistokimia .....	37
III.5.5. Pewarnaan Hematoxylin & Eosin (HE) .....	40
III.5.6. Pewarnaan Sirius Red (SR).....	41
BAB IV HASIL DAN PEMBAHASAN .....	43
IV.1. Hasil Penelitian .....	43
IV.1.1. Karakteristik Dasar Sampel Penelitian .....	43
IV.1.2. Kadar Glukosa Darah .....	44
IV.1.3. Histopatologis Paru.....	47
IV.1.4. Ekspresi mRNA TGF- $\beta$ 1 .....	49
IV.1.5. Ekspresi mRNA CTGF.....	50
IV.1.6. Ekspresi mRNA Coll .....	51
IV.1.7. Pewarnaan Sirius Red .....	52
IV.1.8. Ekspresi mRNA $\alpha$ -SMA .....	54
IV.1.9. Imunohistokimia Ekspresi $\alpha$ -SMA .....	55
IV.2. Pembahasan.....	56
BAB V KESIMPULAN DAN SARAN.....	63
V.1. Kesimpulan.....	63
V.2. Saran .....	64
DAFTAR PUSTAKA .....	65
LAMPIRAN.....	70