BAB VI
RINGKASAN

A. Latar Belakang

Kanker adalah penyebab utama kematian di seluruh dunia. Pada 2012 ada 8,2 juta kematian di dunia, 14,6 % dikaitkan karena kanker (*Torre et al.,* 2015). Di Indonesia kanker dengan prevalensi terbesar adalah kanker payudara. Kanker payudara termasuk ke dalam kanker yang memiliki tingkat kejadiannya 30%, mengalahkan kanker serviks yang memiliki tingkat kejadian 24% (Depkes RI, 2013). Pengobatan kanker payudara diantaranya tindakan pembedahan, kemoterapi, dan radioterapi (Kemenkes RI, 2015). Doksorubisin adalah pilihan pertama kemoterapi untuk kanker payudara (Dipiro, 2009). Pengobatan kanker dengan kemoterapi dan radioterapi memiliki efek samping yang terjadi selama masa pengobatan. Hal tersebut yang menjadi alasan untuk dikembangkannya antikanker alami dari bahan alam atau derivatnya (Newman *et al*., 2012). Salah satu tanaman yang berpotensi sebagai antikanker adalah yakon *(Smallanthus sonchifolius),* tumbuhan ini berasal dari Pegunungan Andes, Peru (Lachman *et al*., 2003). Sebagai wujud pengembangan tersebut dibuatlah ekstrak dan fraksi daun yakon. Pembuatan ekstrak dari suatu tanaman bertujuan untuk menarik kandungan zat aktif yang terdapat dari tanaman (Harbone, 1987). Mekanisme kerja dari tanaman sebagai antikanker dapat dilihat dari pengaruh protein yang mempengaruhi dalam terjadinya apoptosis, contohnya adalah protein p53 dan Bcl-2. Yakon mengandung flavonoid, flavonoid terbukti sebagai agen antikanker dengan mekanisme induksi apoptosis melalui downregulasi dari Bcl-2. Hal ini yang mendasari penelitian ini untuk menguji aktivitas sitotoksik ekstrak dan fraksi daun yakon dan ekspresi protein p53 dan Bcl-2 terhadap sel kanker payudara T47D.

B. Metode Penelitian

Penelitian dilakukan di laboratorium Parasitologi Fakultas Kedokteran UGM untuk uji sitotoksik dan uji ekspresi p53 dan Bcl-2 menggunakkan metode

imunositokimia. Daun yakon yang akan digunakan penelitian, diambil, dan dikumpulkan dari kebun Mejayan, Kabupaten Madiun, Jawa Timur.

Identifikasi tanaman untuk memastikan kebenaran tanaman dilakukan di Fakultas Biologi UGM. Pembuatan ekstrak dilakukan dengan metode soxhletasi menggunakkan pelarut etanol 70%. Fraksinasi dilakukan dengan metode ekstraksi cair-cair menggunakkan corong pisah. Fraksinasi 5 gram ekstrak dipartisi secara berurutan dengan 70 mL n-heksan, Etil asetat, dan air. Selanjutnya dilakukan identifikasi senyawa dengan KLT dengan berbagai fase gerak.

Uji sitotoksik dilakukan dengan memasukkan 10^4 sel T47D ke dalam microplate 96 masing-masing 100 µL, selanjutnya sel diinkubasi 24 jam agar melekat kembali setelah dipanen. Larutan stock ekstrak etanol dan fraksi-fraksi daun yakon dengan kadar 10 mg/100 µL dalam DMSO. Kemudian dari larutan stock tesebut dibuat seri konsentrasi dalam medium kultur dengan variasi 250 µg/ml , 125 µg/ml , 62,5 µg/ml, 31,25 µg/ml , 15,625 µg/ml, 7,81 µg/ml. Selain itu dibuat enam seri konsentrasi doksorubisin yaitu 25 µg/mL, 12,5 µg/mL, 6,25 µg/mL, 3,125 µg/mL, 1,5625 µg/mL. Setelah diberikan perlakuan diinkubasi selama 24 jam pada inkubator 37 ℃. Setelah itu medium kultur dibuang dan pada masing-masing sumuran ditambahkan 10 µL MTT. Sel yang hidup akan bereaksi dengan MTT dan membentuk Kristal formazan berwarna ungu. Setelah itu diinkubasi selama 4 jam di dalam inkubator CO_2 5% pada suhu 37°, setelah diinkubasi tambahkan stopper 10% ke dalam masing-masing sumuran dan inkubasi pada tempat gelap selama 24 jam pada suhu kamar.

Metode imunositokimia digunakan untuk melihat ekspresi p53 dan Bcl-2. Kultur sel sebanyak 5 x 10^4 sel/sumuran ditransfer ke dalam 24 *well plate* yang telah diisi *cover slip*kemudian diinkubasi selama 24 jam dalam inkubator CO_2 pada suhu 37℃. Buang media dan berikan perlakuan ekstrak dan fraksi etil asetat. Inkubasi kembali selama 24 jam dalam inkubator CO_2 5%. Selanjutnya cuci dengan PBS kemudian ditambahkan methanol dingin dan diinkubasi selama 10 menit, kemudian dicuci dengan aquades 2 kali dan diinkubasi dalam larutan hydrogen peroksida selama 10 menit. Kemudian sel ditetesi dengan *prediluted blocking serum* dan diinkubasi 10 menit. Selanjutnya ditetesi dengan antibody

monoclonal primer anti p53, diinkubasi 10 menit, cuci dengan PBS sebanyak 3 kali. Preparat diinkubasi dalam biotin selama 10 menit dan dicuci PBS 2 kali selama 5 menit. Setelah itu ditetesi dengan antibodi sekunder dan diinkubasi selama 10 menit. Selanjutnya inkubasi dalam *Streptavidin peroksidase* selama 10 menit . preparat dicuci kembali dengan PBS lalu diinkubasi dalam DAB 10 menit dan cuci dengan aquades, kemudian direndam dalam larutan *Mayer-Haematoxylin* selama 3-4 menit untuk *counterstain* dan cuci dengan aquades. *Cover slip* kemudian diangkat dan diletakkan pada *obyek glass* tetesi *xylol*, biarkan sedikit kering tetesi alkohol, setelah kering tetesi dengan lem dan tutup dengan dek glass. Amati dengan mikroskop cahaya.

C. Hasil Dan Pembahasan

Soxhletasi dengan pelarut etanol 70% menghasilkan rendemen 26,41 %. Ekstrak etanol 70% memiliki kandungan senyawa yang kompleks sehingga difraksinasi. Fraksinasi dilakukan berdasarkan perbedaan kepolaran yaitu dari non polar, semi polar dan polar, diperoleh 3 fraksi yaitu fraksi n-heksan, fraksi etil asetat, dan fraksi air dengan rendemen berturut-turut adalah 28,56 %, 51,65 % dan 19,77 %.

Susut pengeringan dalam serbuk dan ekstrak berturut-turut adalah 8,43 % dan 6,83 %. Hasil tersebut sesuai dengan persyaratan susut pengeringan untuk simplisia kering dan ekstrak <10 %. Kadar air ekstrak daun yakon 7,83 % v/b atau kurang dari 10 % , dapat disimpulkan ekstrak daun yakon memenuhi standart. Hasil identifikasi senyawa dengan pereaksi tabung dan KLT menunjukkan ekstrak dan fraksi mengandung senyawa flavonoid, alkaloid, dan terpenoid.

Hasil uji sitotoksik menunjukkan bahwa ekstrak, fraksi etil asetat daun yakon memiliki aktivitas sitotoksik dengan nilai IC_{50} 73,47 µg/ml dan 56,84 µg/ml dengan indeks selektivitas 4,50 dan 4,72, sedangkan untuk fraksi n-heksan dan fraksi air tidak memiliki aktivitas sitotoksik $IC_{50} > 100$ µg/ml. Apabila nilai $IC_{50} < 10$ µg/ml termasuk berpotensi sangat aktif dan bila >20 µg/ml termasuk kurang aktif namun bila nilai <100 µg/ml tetap memiliki aktivitas sitotoksik. Dari hasil uji statistik menunjukkan adanya perbedaan bermakna antara ekstrak, fraksi

etil asetat dan kontrol sel (P<0,05) dalam perbagai konsentrasi, hal tersebut menunjukkan adanya peningkata p53 antara kelompok perlakuan ekstrak, fraksi etil asetat dibandingkan dengan kelompok sel, selain itu dari hasil uji statistik menunjukkan adanya perbedaan signifikan (P<0,05) antara ekstrak dan fraksi etil asetat dalam berbagai konsentrasi.

Hasil uji imunositokimia menunjukkan bahwa ekstrak dan fraksi etil asetat daun yakon meningkatkan ekspresi p53 dan menurunkan ekspresi Bcl-2. Semakin besar konsentrasi ekstrak maupun fraksi etil asetat maka semakin meningkat ekspresi p53 dan semakin menurun ekspresi Bcl-2. p53 mengatur dan mengontrol siklus sel beserta respon seluler terhadap kerusakan DNA, inisiasi replikasi dan perbaikan DNA, induksi apoptosis dan promosi diferensiasi seluler. P53 mampu menginduksi kerja enzim yang berfungsi memperbaiki DNA. Apabila kerusakan DNA sel yang terjadi tidak bisa diperbaiki lagi, maka sel akan diarahkan oleh p53 untuk mengalami kematian melalui jalur apoptosis. Pada Bcl-2 peningkatan ekspresi yang dapat menekan fungsi normal dari protein proapoptosis disebabkan karena mutasi dari gen Bcl-2. Apabila terjadi pada protein proapoptosis, maka dapat menurunkan regulasi, dan menyebabkan sel kehilangan kemampuan untuk regulasi apoptosis yang dapat menyebabkan kanker.

D. Kesimpulan

Ekstrak dan fraksi etil asetat daun yakon (*Smallanthus sonchifolius*) memiliki aktifitas sitotoksik terhadap sel kanker payudara T47D dengan nilai IC_{50} 73,47 μg/mL dan 56,84 μg/mL, sedangkan fraksi N-heksan dan fraksi air tidak memiliki aktivitas sitotoksik dengan nilai IC_{50} >100 μg/mL. Indeks selektivitas ekstrak dan fraksi etil asetat daun yakon (*Smallanthus sonchifolius*) terhadap sel kanker payudara T47D dibanding dengan sel vero $\geq$ 3. Ekstrak dan fraksi etil asetat daun yakon (*Smallanthus sonchifolius*) meningkatkan ekspresi protein p53 terhadap sel kanker payudara T47D dengan EC_{50} 32,21 μg/mL dan 28,77 μg/mL. Ekstrak dan fraksi daun yakon (*Smallanthus sonchifolius*) menurunkan ekspresi protein Bcl-2 terhadap sel kanker payudara T47D dengan EC_{50} 55,46μg/mL dan 34,52 μg/mL.

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LAMPIRAN

Lampiran 1. Identifikasi daun yakon

UNIVERSITAS GADJAH MADA
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SURAT KETERANGAN
Nomor : 014623/S.Tb./VII/2019

Yang bertanda tangan dibawah ini, Kepala Laboratorium Sistematika Tumbuhan Fakultas Biologi UGM, menerangkan dengan sesungguhnya bahwa,

Nama   : Lidia Kurniawati
NIM   : SBF 141810193
Asal instansi : Program Pascasarjana Universitas Setia Budi Surakarta

telah melakukan identifikasi tumbuhan dengan hasil sebagai berikut,

Divisi   : Tracheophyta
Sub divisi   : Spermatophytina
Kelas   : Magnoliopsida
Ordo   : Asterales
Familia   : Asteraceae
Genus   : *Smallanthus*
Spesies   : *Smallanthus sonchifolius* (Poepp.) H. Rob.
Nama lokal   : Daun yakon

identifikasi tersebut dibantu oleh Dr. Ratna Susandarini, M.Sc.
Demikian surat keterangan ini diberikan untuk dapat dipergunakan seperlunya.

Yogyakarta, 15 Juli 2019
Kepala Laboratorium
Sistematika Tumbuhan
Fakultas Biologi UGM

Mengetahui,
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Prof. Dr. Purnomo, M.S.
NIP. 195504211982031005

Lampiran 2. Hasil identifikasi senyawa yang terkandung dalam ekstrak

1. Identifikasi flavonoid
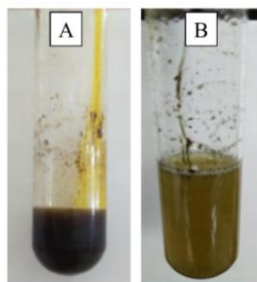
A : Ekstrak daun yakon

B : Setelah identifikasi positif

mengandung flavonoid

2. Identifikasi Alkaloid
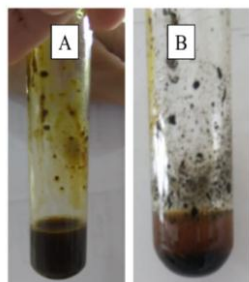
A : Ekstrak daun yakon

B : Setelah identifikasi positif

mengandung alkaloid

3. Identifikasi saponin
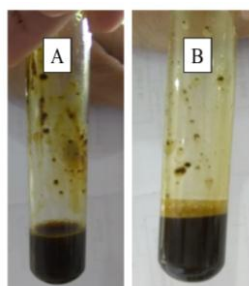
A : Ekstrak daun yakon

B : Setelah identifikasi positif

mengandung saponin

4. Identifikasi terpenoid
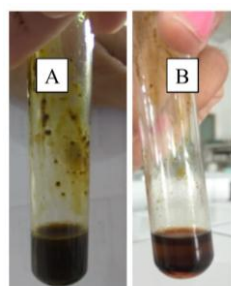
A : Ekstrak daun yakon
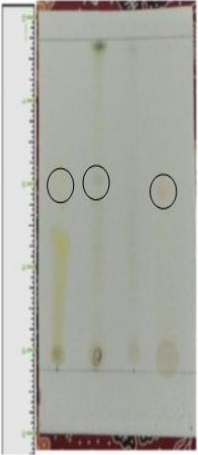
B : Setelah identifikasi positif

mengandung

Lampiran 3. Hasil uji kandungan senyawa dengan metode KLT

1. Identifikasi flavonoid

   Fase diam : Silika Gel GF254
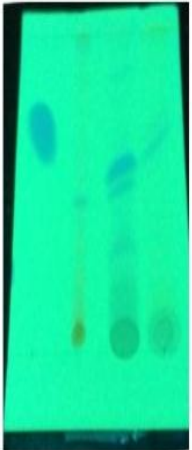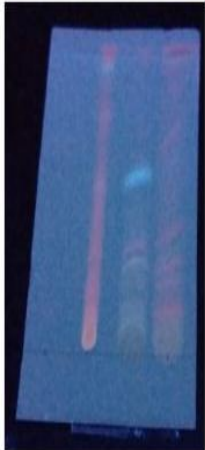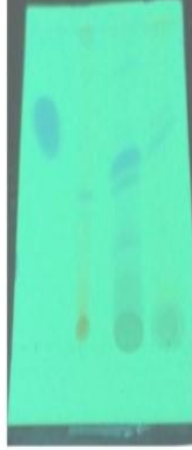
   Fase gerak : Kloroform : Metanol (8:2)

Keterangan	Sinar Tampak	UV 254	UV 366
Sebelum di lewatkan amoniak			
Setelah dilewatkan amoniak			

2. Identifikasi alkaloid

    Fase diam : Silika Gel GF254
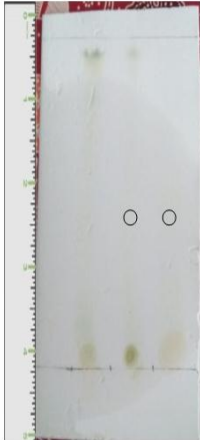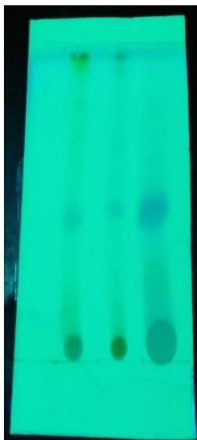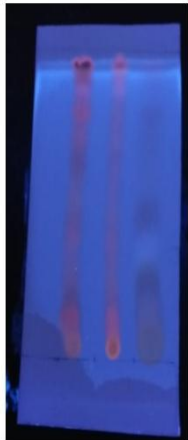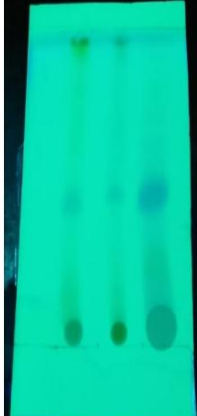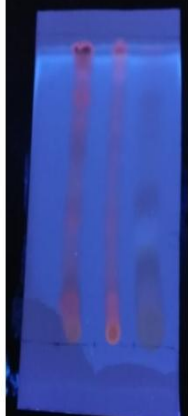
    Fase gerak : Kloroform : Etanol (96:4)

Keterangan	Sinar Tampak	UV 254	UV 366
Sebelum di semprot dragendroft			
Setelah disemprot dragendroft			

7. Identifikasi Triterpen

Fase diam : Silika Gel GF254

Fase gerak : n-heksan : etil asetat (1:1)

Keterangan	Sinar Tampak	UV 254	UV 366
Sebelum di semprot Liberman-burchard			
Setelah di semprot Liberman-burchard			

Lampiran 4. Ethical clearance

KEPK-RSDM

HEALTH RESEARCH ETHICS COMITTE
KOMISI ETIK PENELITIAN KESEHATAN

Dr. Moewardi General Hospital
RSUD Dr. Moewardi

ETHICAL CLEARANCE
KELAIKAN ETIK

Nomor : 1.045 / VIII / HREC / 2019

The Health Research Ethics Committee Dr. Moewardi
Komisi Etik Penelitian Kesehatan RSUD Dr. Moewardi

after reviewing the proposal design, herewith to certify
setelah menilai rancangan penelitian yang diusulkan, dengan ini menyatakan

That the research proposal with topic :
Bahwa usulan penelitian dengan judul

UJI AKTIVITAS DAN JUMLAH PROTEIN p53 DAN Bcl-2 EKSTRAK DAN FRAKSI DAUN YAKON (Smallanthus sonchifolius) TERHADAP SEL KANKER PAYUDARA T47D

Principal investigator   : Lidia Kurniawati
Peneliti Utama   SBF141810193

Location of research   : Universitas Gajah Mada
Lokasi Tempat Penelitian

Is ethically approved
Dinyatakan layak etik

Issued on : 26 Agustus 2019
Chairman
Ketua

Dr. Wahyu Dwi Atmoko., Sp.F
197702 201001 1 004
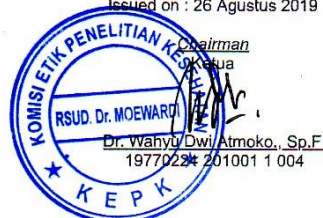
Lampiran 5. Alat dan bahan
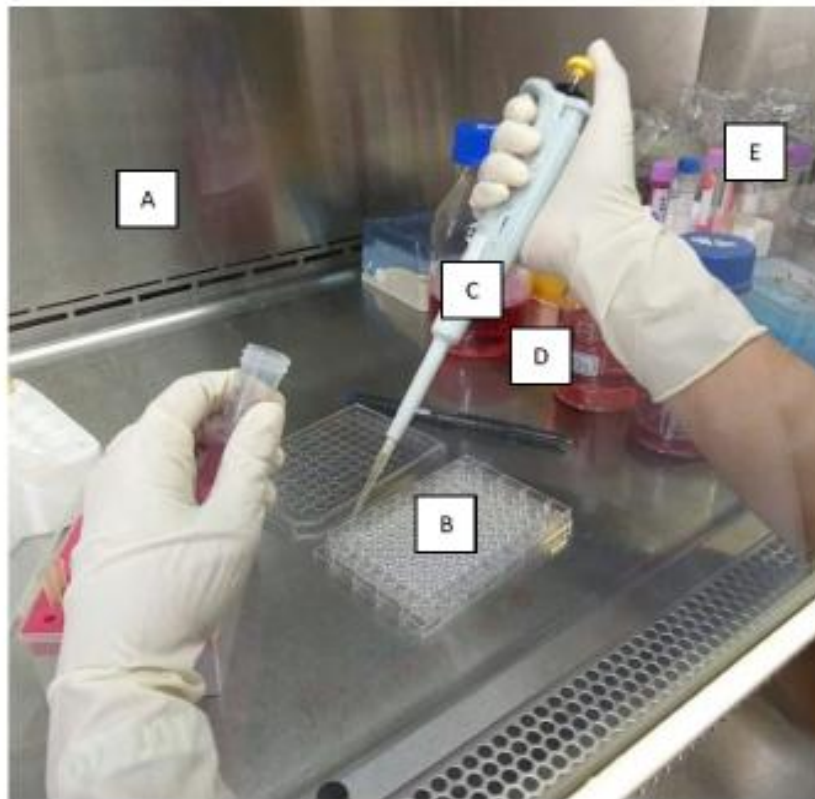
A: LAF

B : *Microplate*

C : Mikro pipet

D : Media kultur

E : Konikel

Lampiran 6. Uji sitotoksik

1.   Perhitungan sel

   a. Sel T47D

Jumlah sel terhitung $= 160 + 96 + 182 + 108 = 546/4 = 136 \times 10^4$

$$\frac{jumlah\ sel\ terhitun}{jumlah\ sel\ yan\ diperlukan} = \frac{104 \times 100}{136\ x\ 104}$$

$$= 0,73\ \text{mL}$$

   b. Sel vero

Jumlah sel terhitung $= 57 + 63 + 66 + 45 = 231/4 = 58 \times 10^4$

$$\frac{jumlah\ sel\ terhitun}{jumlah\ sel\ yan\ diperlukan} = \frac{104 \times 100}{58\ x\ 104}$$

$$= 1,72\ \text{mL}$$

2.   Pembuatan larutan stock
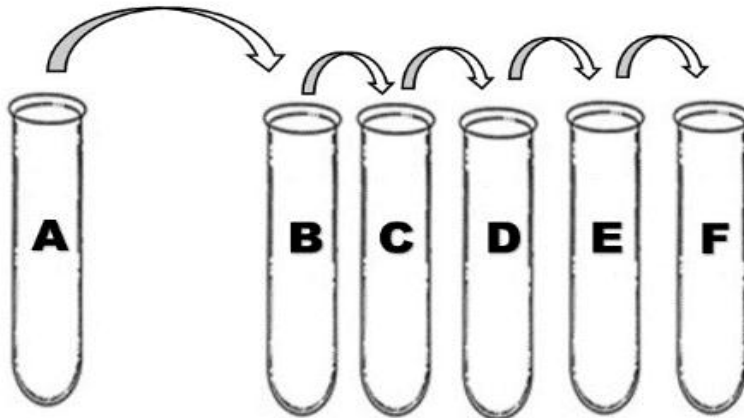
Ekstrak dan fraksi masing – masing dengan penambahan DMSO sebagai *co-solvent* dengan konsentrasi 10 mg / 100 µL DMSO .

$= 10$ mg ekstrak/ 100 µL DMSO

$= 10$ mg/ (100/1000 DMSO)

$= 10$ mg/ (1/10 mL)

$= 10$ mg x 10 mL

$= 100$ mg/mL

$= 100.000$ µg/mL

Dari larutan stok diambil (perhitungan untuk konsentrasi 250 µg/mL)

$$V_1 \times C_1 = V_2 \times C_2$$

$$1000 \ \mu L \times 250 \ \mu g/mL = V_2 \times 100.000 \ \mu g/mL$$

$$250.000 = 100.000 \ V_2$$

$$V_2 = 2,5 \ \mu L \text{ larutan stock} + 997,5 \text{ media kultur}$$

A. Perhitungan untuk konsentrasi 250 µg/mL

$$V1 \times C1 = V2 \times C2$$

$$1000 \ \mu L \times 250 \ \mu g/mL = 1000 \ \mu L \times C2$$

$$C_2 = 1000 \ \mu L \times 250 \ \mu g/mL$$

$$C_2 = 250 \ \mu g/mL$$

B. Perhitungan untuk konsentrasi 125 µg/mL

$$V1 \times C1 = V2 \times C2$$

$$1000 \ \mu L \times 125 \ \mu g/mL = 1000 \ \mu L \times C2$$

$$C_2 = 1000 \ \mu L \times 125 \ \mu g/mL$$

$$C_2 = 125 \ \mu g/mL$$

C. Perhitungan untuk konsentrasi 62,5 µg/mL

$$V1 \times C1 = V2 \times C2$$

$$1000 \ \mu L \times 62,5 \ \mu g/mL = 1000 \ \mu L \times C2$$

$$C_2 = 1000 \ \mu L \times 62,5 \ \mu g/mL$$

$$C_2 = 62,5 \ \mu g/mL$$

D. Perhitungan untuk konsentrasi 31,25 µg/mL

$$V1 \times C1 = V2 \times C2$$

$$1000 \ \mu L \times 31,25 \ \mu g/mL = 1000 \ \mu L \times C2$$

$$C_2 = 1000 \ \mu L \times 31,25 \ \mu g/mL$$

$$C_2 = 31,25 \ \mu g/mL$$

E. Perhitungan untuk konsentrasi 15,625 µg/mL

$$V1 \times C1 = V2 \times C2$$

$$1000 \ \mu L \times 15,625 \ \mu g/mL = 1000 \ \mu L \times C2$$

$$C_2 = 1000 \ \mu L \times 15,625 \ \mu g/mL$$

$$C_2 = 15,625 \ \mu g/mL$$

F. Perhitungan untuk konsentrasi 7,8125 µg/mL

$$V1 \times C1 = V2 \times C2$$

$$1000 \ \mu L \times 7,8125 \ \mu g/mL = 1000 \ \mu L \times C2$$

$$C_2 = 1000 \ \mu L \times 7,8125 \ \mu g/mL$$

$$C_2 = 7,8125 \ \mu g/mL$$

Lampiran 7. Pembuatan larutan stock untuk ICC
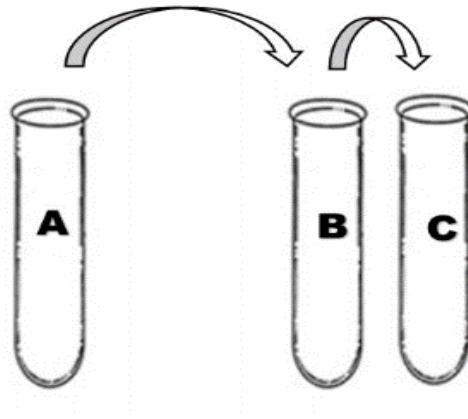
1. Ekstrak daun yakon

   $2 \text{ IC}_{50} \quad \frac{5000 \; x \; 146{,}91}{100.000} = 7{,}3 \; \mu L$ ad 5000 µL medium

2. Fraksi etil asetat daun yakon

   $2 \text{ IC}_{50} \quad \frac{5000 \; x \; 113{,}68}{100.000} = 6 \; \mu L$ ad 5000 µL medium

A : Sampel + 5000 µL Medium (2 IC$_{50}$)

B : Dipipet 2500 µL dari A ke B (IC$_{50}$)

C : Dipipet 2500 µL dari B ke C (1/2 IC$_{50}$)

Lampiran 8. Hasil *MTT assay* pada sel T47D

1. Ekstrak

   Replikasi 1

Konsentrasi (C) µg/mL	Log konsentrasi (Log C)	Absorbansi	Absorbansi Kontrol media	Absorbansi Kontrol sel	% Viabilitas
250	2,397	0,106	0,093	0,909	1,59
125	2,096	0,393	0,093	0,909	36,76
62,5	1,795	0,723	0,093	0,909	77,20
31,25	1,494	0,797	0,093	0,909	86,27
15,625	1,1938	0,866	0,093	0,909	94,73
7,8125	0,892	0,893	0,093	0,909	98,03

IC_{50} replikasi 1

$y = -63,135x + 169,65$

$50 - 169,65 = 63,135x$

$-119,65 = 63,135x$

Anti log x = 1,8951

$IC_{50} = 78,54$ µg/mL
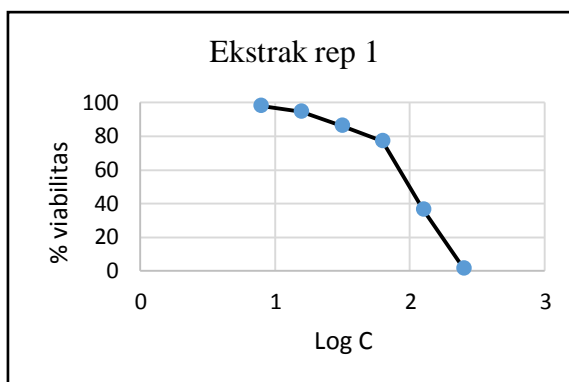
Ekstrak rep 1

Replikasi 2

Konsentrasi (C) µg/mL	Log konsentrasi (Log C)	Absorbansi	Absorbansi Kontrol media	Absorbansi Kontrol sel	% Viabilitas
250	2,397	0,106	0,093	0,909	1,59
125	2,096	0,248	0,093	0,909	18,99
62,5	1,795	0,71	0,093	0,909	75,61
31,25	1,494	0,798	0,093	0,909	86,39
15,625	1,1938	0,886	0,093	0,909	97,18
7,8125	0,892	0,92	0,093	0,909	100

IC_{50} replikasi 2

$y = -70,626x + 179,73$

$50 - 179,73 = -70,626 x$

$-129,73 = -70,626 x$

Antilog x = 1,8368

$IC_{50} = 68,68$ µg/mL

Ekstrak rep 2
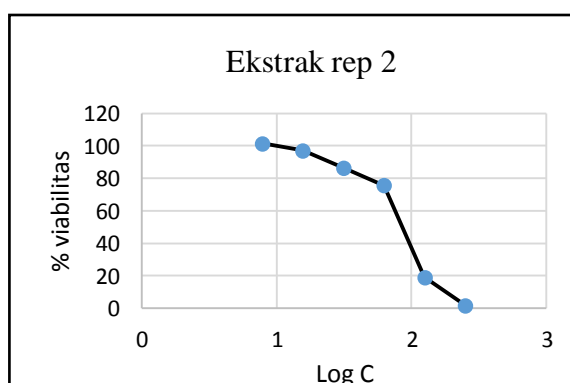
Replikasi 3

Konsentrasi (C) μg/mL	Log konsentrasi	Absorbansi	Absorbansi Kontrol media	Absorbansi Kontrol sel	% Viabilitas
250	2,3979	0.113	0,093	0,909	2,45
125	2,0969	0.357	0,093	0,909	5,51
62,5	1,7958	0.702	0,093	0,909	34,80
31,25	1,4948	0.783	0,093	0,909	52,69
15,625	1,1938	0.852	0,093	0,909	76,59
7,8125	0,8927	0.861	0,093	0,909	90,80

IC_{50} replikasi 3

$y = -61,716x + 165,07$

$50 - 165,07 = -61,716x$

$-115,07 = -61,716x$

Antilog x = 1,8645

$IC_{50} = 73,19$ μg/mL
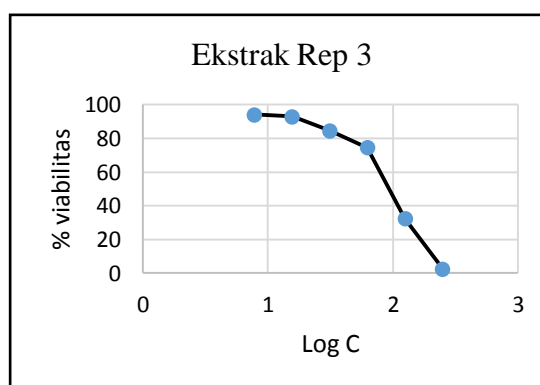
Ekstrak Rep 3

2. Fraksi n-heksan

Replikasi 1

Konsentrasi (C) μg/mL	Log konsentrasi (Log C)	Absorbansi	Absorbansi Kontrol media	Absorbansi Kontrol sel	% Viabilitas
250	2,397	0,346	0,093	0,909	31,00
125	2,096	0,607	0,093	0,909	62,99
62,5	1,795	0,702	0,093	0,909	74,63
31,25	1,494	0,787	0,093	0,909	85,04
15,625	1,1938	0,801	0,093	0,909	86,76
7,8125	0,892	0,831	0,093	0,909	90,44

IC_{50} replikasi 1

$y = -35,964x + 130,99$

$50 - 130,99 = -35,965x$

$-80,99 = -35,964x$

Antilog x = 2,2519

$IC_{50} = 178,63$ μg/mL
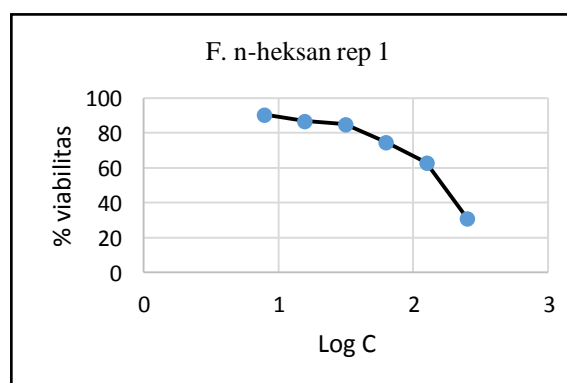
F. n-heksan rep 1

Replikasi 2

Konsentrasi (C) µg/mL	Log konsentrasi (Log C)	Absorbansi	Absorbansi Kontrol media	Absorbansi Kontrol sel	% Viabilitas
250	2,397	0,366	0,093	0,909	33,45
125	2,096	0,608	0,093	0,909	63,11
62,5	1,795	0,774	0,093	0,909	83,45
31,25	1,494	0,821	0,093	0,909	89,21
15,625	1,1938	0,845	0,093	0,909	92,15
7,8125	0,892	0,88	0,093	0,909	96,44

IC50 replikasi 2

$y = -38.709x + 140$

$50 - 140 = -38,709x$

$-90 = -38,709x$

Antilog x = 2,3250

$IC_{50} = 211,36$ µg/mL
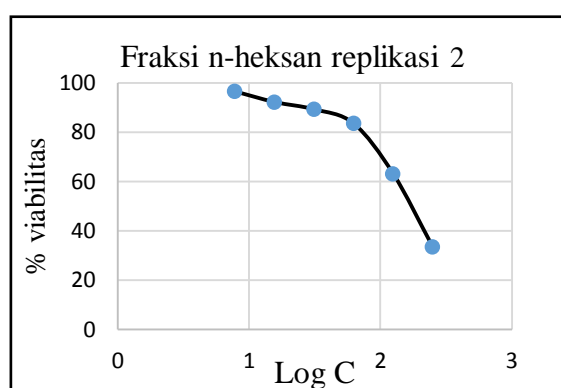
Fraksi n-heksan replikasi 2

Replikasi 3

Konsentrasi (C) µg/mL	Log konsentrasi (Log C)	Absorbansi	Absorbansi Kontrol media	Absorbansi Kontrol sel	% Viabilitas
250	2,397	0,327	0,093	0,909	28,67
125	2,096	0,593	0,093	0,909	61,27
62,5	1,795	0,76	0,093	0,909	81,74
31,25	1,494	0,811	0,093	0,909	87,99
15,625	1,1938	0,836	0,093	0,909	91,05
7,8125	0,892	0,894	0,093	0,909	98,16

IC_{50} replikasi 3

$y = -42.048x + 144$

$50 - 144 = -42,048x$

$-94 = -42,048x$

Antilog x = 2,2355

$IC_{50} = 172$ µg/mL
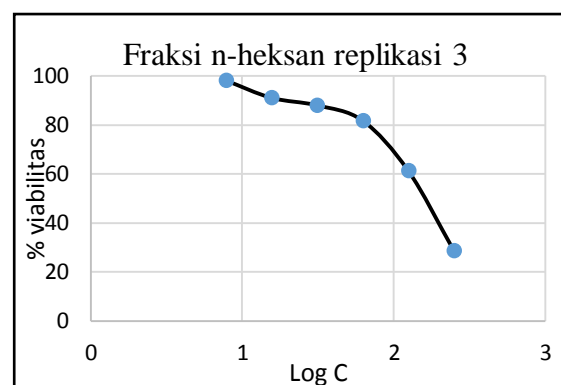
Fraksi n-heksan replikasi 3

3. Fraksi etil asetat

   Replikasi 1

Konsentrasi (C) µg/mL	Log konsentrasi (Log C)	Absorbansi	Absorbansi Kontrol media	Absorbansi Kontrol sel	% Viabilitas
250	2,397	0,278	0,093	0,909	22,671
125	2,096	0,454	0,093	0,909	44,24
62,5	1,795	0,521	0,093	0,909	52,45
31,25	1,494	0,588	0,093	0,909	60,66
15,625	1,1938	0,655	0,093	0,909	68,87
7,8125	0,892	0,67	0,093	0,909	70,71

IC_{50} replikasi 1

$y = -30,591x + 103,6$

$50 - 103,6 = -30,591x$

$-53,6 = -30,591x$

Antilog x = 1,7521

$IC_{50} = 56,51$ µg/mL
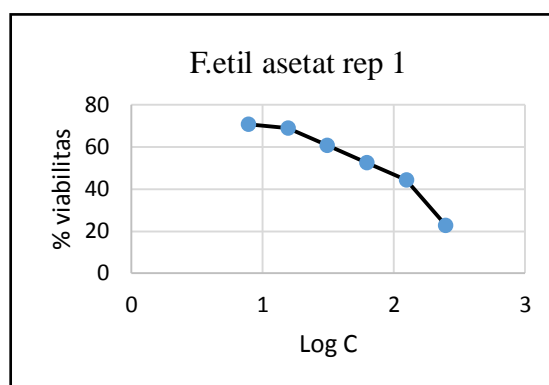
F.etil asetat rep 1

Replikasi 2

Konsentrasi (C) µg/mL	Log konsentrasi (Log C)	Absorbansi	Absorbansi Kontrol media	Absorbansi Kontrol sel	% Viabilitas
250	2,397	0,289	0,093	0,909	24,01
125	2,096	0,458	0,093	0,909	44,73
62,5	1,795	0,524	0,093	0,909	52,81
31,25	1,494	0,603	0,093	0,909	62,5
15,625	1,1938	0,663	0,093	0,909	69,85
7,8125	0,892	0,67	0,093	0,909	70,71

IC_{50} replikasi 2

$y = -30,23x + 103,84$

$50 - 103,84 = -30,23x$

$-53,84 = -30,23x$

Antilog x = 1,7810

$IC_{50} = 60,39$ µg/mL
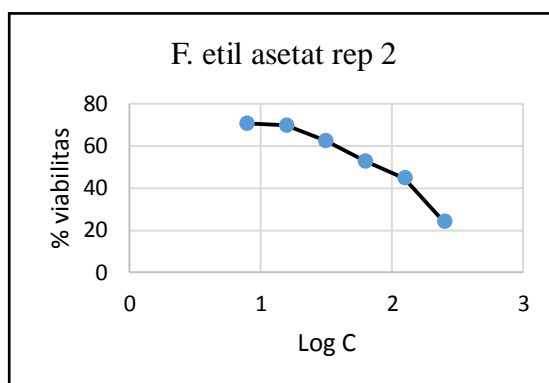
F. etil asetat rep 2

Replikasi 3

Konsentrasi (C) µg/mL	Log konsentrasi (Log C)	Absorbansi	Absorbansi Kontrol media	Absorbansi Kontrol sel	% Viabilitas
250	2,397	0,302	0,093	0,909	25,61
125	2,096	0,415	0,093	0,909	39,46
62,5	1,795	0,505	0,093	0,909	50,49
31,25	1,494	0,62	0,093	0,909	64,58
15,625	1,1938	0,639	0,093	0,909	66,91
7,8125	0,892	0,645	0,093	0,909	67,64

IC_{50} replikasi 3

$y = -29,102x + 100,33$

$50 - 100,33 = -29,102x$

$-50,33 = -29,102x$

Antilog x = 1,7294

$IC_{50} = 53,63$ µg/mL
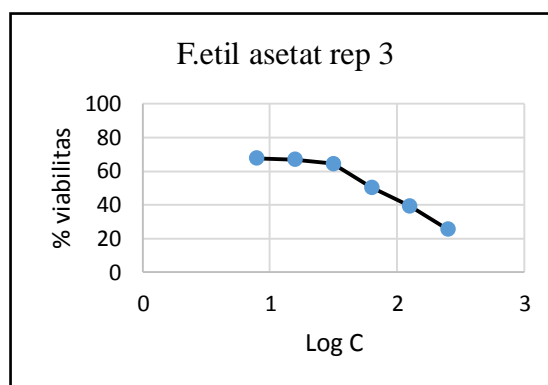
4. Fraksi air

Replikasi 1

Konsentrasi (C) µg/mL	Log konsentrasi (Log C)	Absorbansi	Absorbansi Kontrol media	Absorbansi Kontrol sel	% Viabilitas
250	2,397	0,610	0,093	0,909	63,35
125	2,096	0,635	0,093	0,909	66,42
62,5	1,795	0,67	0,093	0,909	70,71
31,25	1,494	0,71	0093	0,909	75,61
15,625	1,1938	0,835	0,093	0,909	90,93
7,8125	0,892	0,855	0,093	0,909	93,38

IC_{50} replikasi 1

$y = -21,693x + 112,43$

$50 - 112,43 = -21,693x$

$-62,43 = -21,693x$

Antilog x = 2,8778

IC50 = 754,89 µg/mL
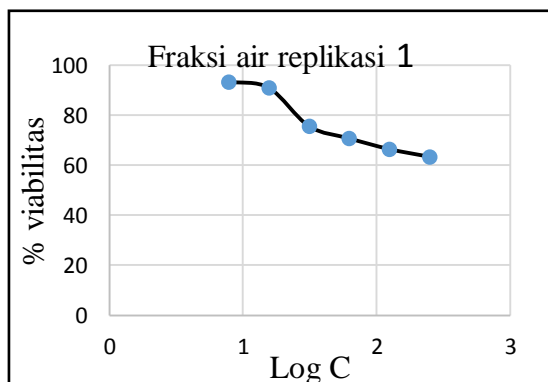
Replikasi 2

Konsentrasi (C) µg/mL	Log konsentrasi (Log C)	Absorbansi	Absorbansi Kontrol media	Absorbansi Kontrol sel	% Viabilitas
250	2,397	0.61	0.093	0.909	63.35
125	2,096	0.633	0.093	0.909	66.17
62,5	1,795	0.642	0.093	0.909	67.27
31,25	1,494	0.715	0.093	0.909	76.22
15,625	1,1938	0.825	0.093	0.909	89.70
7,8125	0,892	0.83	0.093	0.909	90.31

IC_{50} replikasi 2

y = y = -20,343x + 108,98

50 – 108,98 = -20,343x

-58,98 = -20,343x

Antilog x = 2,8992

IC_{50} = 793,007 µg/mL
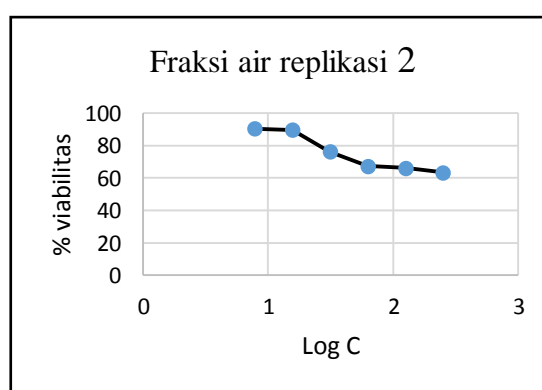
Fraksi air replikasi 2

Replikasi 3

Konsentrasi (C) µg/mL	Log konsentrasi (Log C)	Absorbansi	Absorbansi Kontrol media	Absorbansi Kontrol sel	% Viabilitas
250	2,397	0,59	0,093	0,909	60,90
125	2,096	0,625	0,093	0,909	65,19
62,5	1,795	0,639	0,093	0,909	66,91
31,25	1,494	0,689	0,093	0,909	73,03
15,625	1,1938	0,735	0,093	0,909	78,67
7,8125	0,892	0,82	0,093	0,909	89,09

IC_{50} replikasi 3

y = -17.796x + 101.58

50 – 101,58 = -17,796x

-51,58 = -17,796x

Antilog x = 2,8984

IC_{50} = 793,19 µg/mL
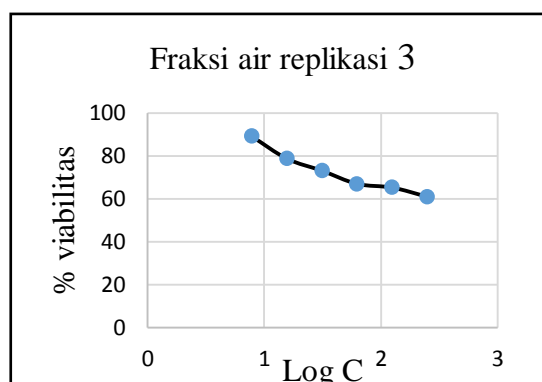
Fraksi air replikasi 3

5. Kontrol positif

Replikasi 1

Konsentrasi (C) µg/mL	Log konsentrasi (Log C)	Absorbansi	Absorbansi Kontrol media	Absorbansi Kontrol sel	% Viabilitas
25	1,3979	0,495	0,093	0,909	49,26
12,5	1,0969	0,505	0,093	0,909	50,49
6,25	0,7958	0,515	0,093	0,909	51,71
3,125	0,4948	0,525	0,093	0,909	52,94
1,5625	0,19382	0,538	0,093	0,909	54,53

IC$_{50}$ replikasi 1

$y = -4,3152x + 55,224$

$50 - 55,224 = -4,3152x$

$-5,224 = -4,3152x$

Antilog x = 1,2106

IC$_{50}$ = 16,24 µg/mL
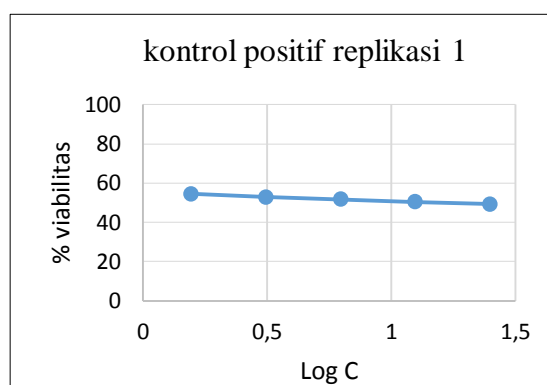
kontrol positif replikasi 1

Replikasi 2

Konsentrasi (C) µg/mL	Log konsentrasi (Log C)	Absorbansi	Absorbansi Kontrol media	Absorbansi Kontrol sel	% Viabilitas
25	1,3979	0,485	0,093	0,909	48,03
12.5	1,0969	0,498	0,093	0,909	49,63
6.25	0,7958	0525	0,093	0,909	52,94
3.125	0,4948	0,53	0,093	0,909	53,55
1.5625	0,19382	0,537	0,093	0,909	54,41

IC$_{50}$ replikasi 2

$y = -5,5365x + 56,122$

$50 - 56,122 = -5,5365x$

$-6,122 = 5,5365x$

Antilog x = 1,1057

IC50 = 12,75 µg/mL
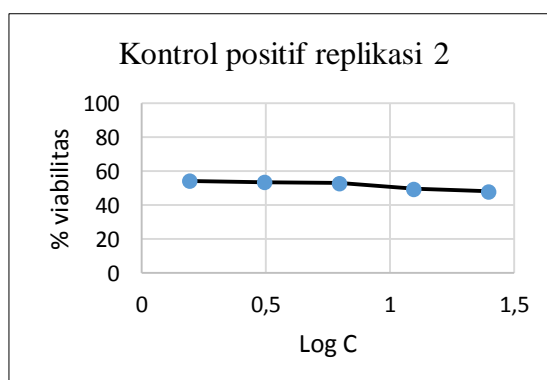
Kontrol positif replikasi 2

Replikasi 3

Konsentrasi (C) µg/mL	Log konsentrasi (Log C)	Absorbansi	Absorbansi Kontrol media	Absorbansi Kontrol sel	% Viabilitas
25	1,3979	0.475	0.093	0.909	46.81
12,5	1,0969	0.488	0.093	0.909	48.40
6,25	0,7958	0.51	0.093	0.909	51.10
3,125	0,4948	0.53	0.093	0.909	53.55
1,5625	0,19382	0.544	0.093	0.909	55.26

IC_{50} replikasi 3

$y = -7{,}3278x + 56{,}861$

$50 - 56{,}861 = -7{,}3278x$

$-6{,}861 = -7{,}3278x$

Antilog $x = 0{,}9362$

$IC_{50} = 8{,}63$ µg/mL

kontrol positif replikasi 3
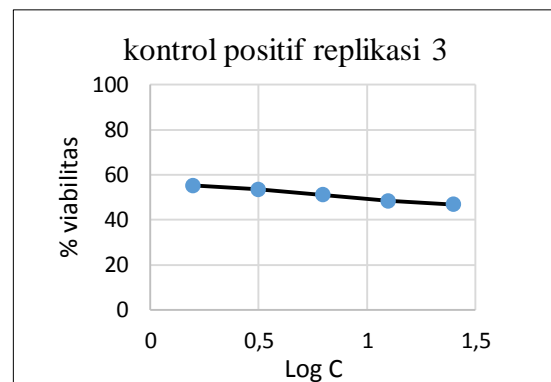
Lampiran 9. Hasil MTT *assay* sel vero

1. Ekstrak

    Replikasi 1

Konsentrasi (C)µg/mL	Log konsentrasi (Log C)	Absorbansi	Absorbansi Kontrol media	Absorbansi Kontrol sel	% Viabilitas
250	2,3979	0,405	0,093	0,676	53,51
125	2,0969	0,401	0,093	0,676	52,83
62,5	1,7958	0,501	0,093	0,676	69,98
31,25	1,4948	0,575	0,093	0,676	82,67
15,625	1,1938	0,582	0,093	0,676	83,87
7,8125	0,8927	0,593	0,093	0,676	85,76

IC_{50} replikasi 1

$y = -25,348x + 113,15$

$-63,15 = -25,348x$

Antilog x = 2,491

$IC_{50} = 309,97$ µg/mL
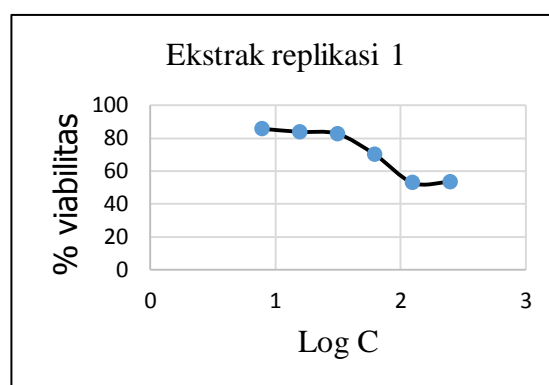
Ekstrak replikasi 1

Replikasi 2

Konsentrasi (C) µg/mL	Log konsentrasi (Log C)	Absorbansi	Absorbansi Kontrol media	Absorbansi Kontrol sel	% Viabilitas
250	2,3979	0,401	0,093	0,676	52,83
125	2,0969	0,45	0,093	0,676	61,23
62,5	1,7958	0,53	0,093	0,676	74,95
31,25	1,4948	0,555	0,093	0,676	79,24
15,625	1,1938	0,63	0,093	0,676	92,10
7,8125	0,8927	0,674	0,093	0,676	99,65

IC_{50} replikasi 2

$y = -31,42x + 128,37$

$50 - 128,37 = -31,42x$

$-78,37 = -31,42 x$

Antilog x = 2,4942

$IC_{50} = 312,08$ µg/mL
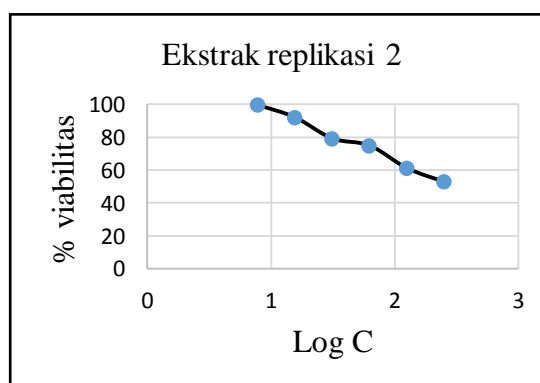
Ekstrak replikasi 2

Replikasi 3

Konsentrasi (C) µg/mL	Log konsentrasi (Log C)	Absorbansi	Absorbansi Kontrol media	Absorbansi Kontrol sel	% Viabilitas
250	2,3979	0,408	0,093	0,676	54,03
125	2,0969	0,434	0,093	0,676	58,49
62,5	1,7958	0,525	0,093	0,676	74,09
31,25	1,4948	0,543	0,093	0,676	77,18
15,625	1,1938	0,589	0,093	0,676	85,07
7,8125	0,8927	0,62	0,093	0,676	90,39

IC_{50} replikasi 3

$y = -25{,}12x + 114{,}54$

$50 - 114{,}54 = -25{,}12x$

$-64{,}54 = -25{,}12x$

Antilog x = 2,5692

$IC_{50} = 370{,}90$ µg/mL
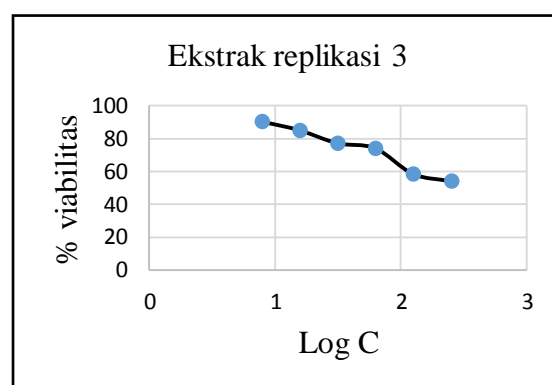
Ekstrak replikasi 3

2. Fraksi n-heksan

Replikasi 1

Konsentrasi (C) µg/mL	Log konsentrasi (Log C)	Absorbansi	Absorbansi Kontrol media	Absorbansi Kontrol sel	% Viabilitas
250	2,3979	0,252	0,093	0,676	27,27
125	2,0969	0,286	0,093	0,676	33,10
62,5	1,7958	0,304	0,093	0,676	36,19
31,25	1,4948	0,526	0,093	0,676	74,27
15,625	1,1938	0,593	0,093	0,676	85,76
7,8125	0,8927	0,665	0,093	0,676	98,11

IC_{50} replikasi 1

$y = -52{,}226x + 145{,}05$

$50 - 145{,}05 = -52{,}226x$

$-95{,}05 = -52{,}226x$

Antilog x = 1,8199

$IC_{50} = 66{,}06$ µg/mL
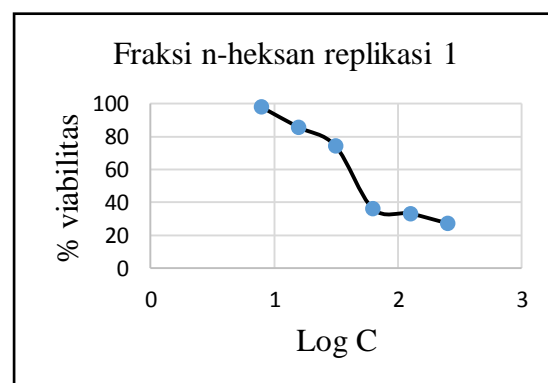
Fraksi n-heksan replikasi 1

Replikasi 2

Konsentrasi (C) µg/mL	Log konsentrasi (Log C)	Absorbansi	Absorbansi Kontrol media	Absorbansi Kontrol sel	% Viabilitas
250	2,3979	0,242	0,093	0,676	25,55
125	2,0969	0,276	0,093	0,676	31,38
62,5	1,7958	0,347	0,093	0,676	43,56
31,25	1,4948	0,552	0,093	0,676	78,73
15,625	1,1938	0,621	0,093	0,676	90,56
7,8125	0,8927	0,635	0,093	0,676	92,96

IC_{50} replikasi 2

$y = -52,177x + 146,31$

$50 - 146,31 = -52,177x$

$-96,31 = -52,177x$

Antilog x = 1,845

$IC_{50} = 70,11$ µg/mL
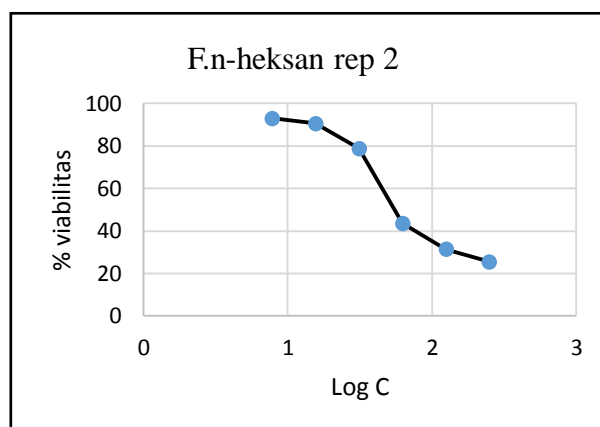
Replikasi 3

Konsentrasi (C) µg/mL	Log konsentrasi (Log C)	Absorbansi	Absorbansi Kontrol media	Absorbansi Kontrol sel	% Viabilitas
250	2,3979	0.24	0,093	0,676	28,30
125	2,0969	0.279	0,093	0,676	38,25
62,5	1,7958	0.351	0,093	0,676	78,38
31,25	1,4948	0.495	0,093	0,676	91,08
15,625	1,1938	0.515	0,093	0,676	90,73
7,8125	0,8927	0.591	0,093	0,676	87,65

IC_{50} replikasi 3

$y = -42,442x + 124,52$

$50 - 124,52 = -42,442x$

$-74,52 = -42,442x$

Antilog x = 1,7558

$IC_{50} = 56,99$ µg/mL
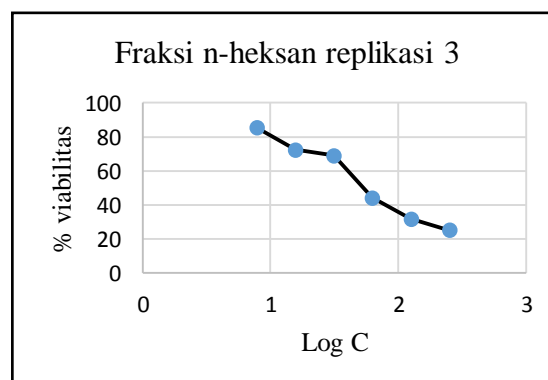
3. Fraksi etil asetat

   Replikasi 1

Konsentrasi (C) µg/mL	Log konsentrasi (Log C)	Absorbansi	Absorbansi Kontrol media	Absorbansi Kontrol sel	% Viabilitas
250	2,3979	0,33	0,093	0,676	40.65
125	2,0969	0,49	0,093	0,676	68.09
62,5	1,7958	0,509	0,093	0,676	71.35
31,25	1,4948	0,537	0,093	0,676	76.15
15,625	1,1938	0,543	0,093	0,676	77.18
7,8125	0,8927	0,64	0,093	0,676	93.82

IC_{50} replikasi 1

$y = -28,278x + 117,74$

$50 - 117,74 = -28,278x$

$-67,74 = -28,278x$

Antilog x = 2,3955

$IC_{50} = 248,6$ µg/mL
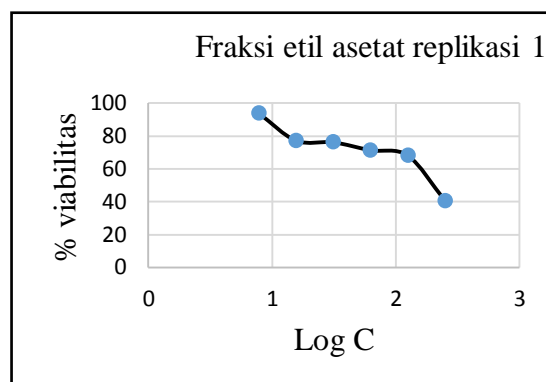
Fraksi etil asetat replikasi 1

Replikasi 2

Konsentrasi (C) µg/mL	Log konsentrasi (Log C)	Absorbansi	Absorbansi Kontrol media	Absorbansi Kontrol sel	% Viabilitas
250	2,3979	0,337	0,093	0,676	4185
125	2,0969	0,493	0,093	0,676	68,61
62,5	1,7958	0,502	0,093	0,676	70,15
31,25	1,4948	0,538	0,093	0,676	76,32
15,625	1,1938	0,588	0,093	0,676	84,90
7,8125	0,8927	0,601	0,093	0,676	87,13

IC_{50} replikasi 2

$y = -26,715x + 115,45$

$50 - 114,46 = -26,715x$

$-64,46 = -26,715x$

Antilog x = 2,4499

$IC_{50} = 281,79$ µg/mL
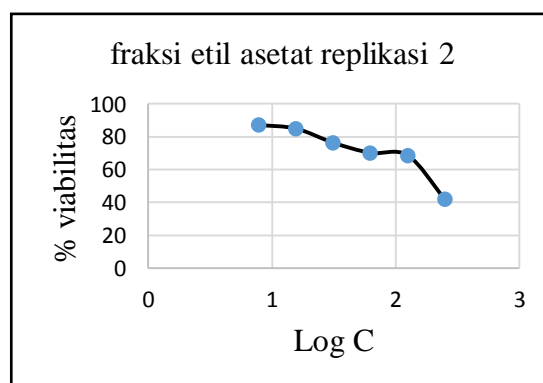
fraksi etil asetat replikasi 2

Replikasi 3

Konsentrasi (C) µg/mL	Log konsentrasi (Log C)	Absorbansi	Absorbansi Kontrol media	Absorbansi Kontrol sel	% Viabilitas
250	2,3979	0,345	0,093	0,676	43,22
125	2,0969	0,489	0,093	0,676	67,92
62,5	1,7958	0,515	0,093	0,676	72,38
31,25	1,4948	0,523	0,093	0,676	73,75
15,625	1,1938	0,556	0,093	0,676	79,41
7,8125	0,8927	0,64	0,093	0,676	93,82

IC_{50} replikasi 3

$y = -27,415x + 116,86$

$50 - 116,86 = -27,415x$

$-66,86 = -27,415$

Antilog x = 2,4388

$IC_{50} = 274,66$ µg/mL
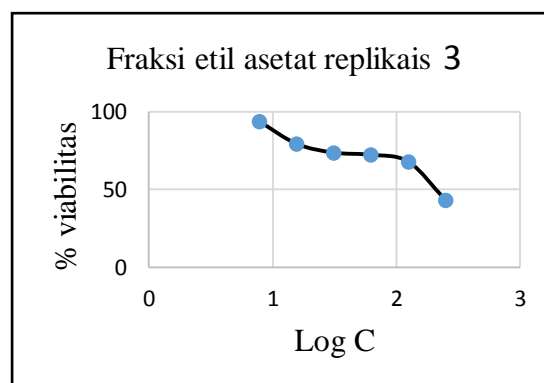
Fraksi etil asetat replikais 3

4. Fraksi air

Replikasi 1

Konsentrasi (C) µg/mL	Log konsentrasi (Log C)	Absorbansi	Absorbansi Kontrol media	Absorbansi Kontrol sel	% Viabilitas
250	2,3979	0,512	0,093	0,676	71,86
125	2,0969	0,580	0,093	0,676	83,53
62,5	1,7958	0,595	0,093	0,676	86,10
31,25	1,4948	0,651	0,093	0,676	95,71
15,625	1,1938	0,675	0,093	0,676	99,82
7,8125	0,8927	0,678	0,093	0,676	100,34

IC_{50} replikasi 1

$y = -19.064x + 120.93$

$50 - 120,93 = -19,015x$

$-70,93 = -19,015$

Antilog x = 3,7301

$IC_{50} = 5372,95$ µg/mL
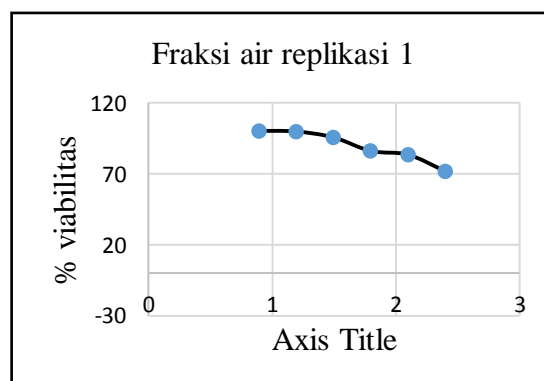
Fraksi air replikasi 1

Replikasi 2

Konsentrasi (C) μg/mL	Log konsentrasi (Log C)	Absorbansi	Absorbansi Kontrol media	Absorbansi Kontrol sel	% Viabilitas
250	2,3979	0,512	0,093	0,676	71,86
125	2,0969	0,581	0,093	0,676	83,70
62,5	1,7958	0,593	0,093	0,676	85,76
31,25	1,4948	0,651	0,093	0,676	95,71
15,625	1,1938	0,677	0,093	0,676	100
7,8125	0,8927	0,688	0,093	0,676	100

IC_{50} replikasi 2

y = -18.982x + 120.77

50 − 120,77 = -18,982x

-70,77 = -18,982x

Antilog x = 3,7282

IC_{50} = 5348,95 μg/mL

Fraksi air replikasi 2
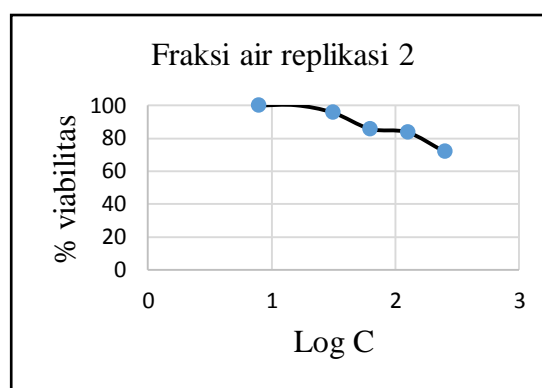
Replikasi 3

Konsentrasi (C) μg/mL	Log konsentrasi (Log C)	Absorbansi	Kontrol media	Kontrol sel	% Viabilitas
250	2,3979	0,51	0,093	0,676	71,52
125	2,0969	0,582	0,093	0,676	83,87
62,5	1,7958	0,595	0,093	0,676	86,10
31,25	1,4948	0,65	0,093	0,676	95,54
15,625	1,1938	0,675	0,093	0,676	99,82
7,8125	0,8927	0,686	0,093	0,676	100

IC_{50} replikasi 3

y = -18,95x + 120,66

50 − 120,66 = -18,95x

-70,66 = -18,95x

Antilog x = 3,7287

IC_{50} = 5355 μg/mL

Fraksi air replikasi 3
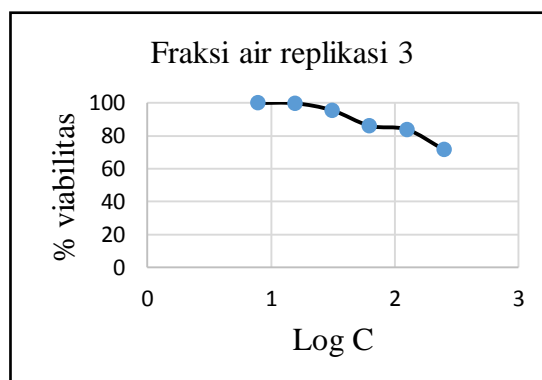
5. Kontrol positif

Replikasi 1

Konsentrasi (C)	Log konsentrasi (Log C)	Absorbansi	Absorbansi Kontrol media	Absorbansi Kontrol sel	% Viabilitas
25	1,3979	0,415	0,093	0,676	55,23156
12,5	1,0969	0,425	0,093	0,676	56,94683
6,25	0,7958	0,43	0,093	0,676	57,80446
3,125	0,4948	0,448	0,093	0,676	60,89194
1,5625	0,1938	0,496	0093	0,676	69,12521

IC_{50} replikasi 1

y = -10,541x + 68,39

50 – 68,39 = -10,541 x

-18,39 = -10,541x

Antilog x = 1,7446

IC_{50} = 55,54 µg/mL
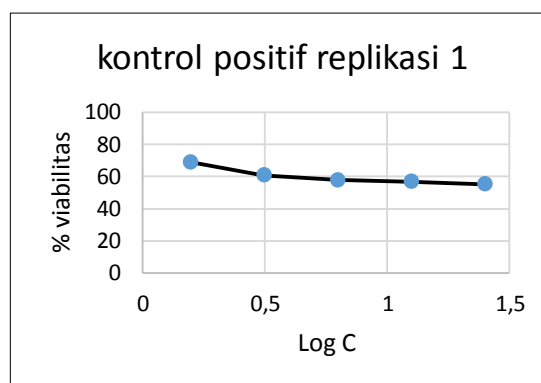
kontrol positif replikasi 1

Replikasi 2

Konsentrasi (C) µg/mL	Log konsentrasi (Log C)	Absorbansi	Absorbansi Kontrol media	Absorbansi Kontrol sel	% Viabilitas
25	1,3979	0.4153	0.093	0.676	55.28302
12,5	1,0969	0.4251	0.093	0.676	56.96398
6,25	0,7958	0.429	0.093	0.676	57.63293
3,125	0,4948	0.448	0.093	0.676	60.89194
1,5625	0,1938	0.491	0.093	0.676	68.26758

IC_{50} replikasi 2

y = -9,9316x + 67,712

50 – 67,712 = -9,9316 x

-17,712 = -9,9316x

Antilog x = 1,7833

IC_{50} = 60,72 µg/mL
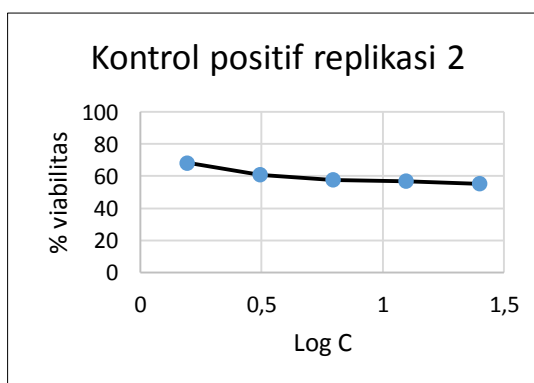
Kontrol positif replikasi 2

Replikasi 3

Konsentrasi (C) µg/mL	Log konsentrasi (Log C)	Absorbansi	Absorbansi Kontrol media	Absorbansi Kontrol sel	% Viabilitas
25	1,3979	0.416	0.093	0.676	55.40309
12,5	1,0969	0.434	0.093	0.676	58.49057
6,25	0,7958	0.438	0.093	0.676	59.17667
3,125	0,4948	0.448	0.093	0.676	60.89194
1,5625	0,1938	0.491	0.093	0.676	68.26758

IC_{50} replikasi 3

$y = -9{,}3447x + 67{,}883$

$50 - 67{,}883 = -9{,}3447x$

$-17{,}883 = -9{,}3447x$

Antilog x = 1,9137

$IC_{50} = 81{,}97$ µg/mL

Kontrol positif replikasi 3
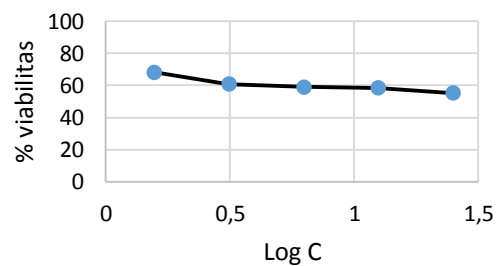
Lampiran 10. Hasil Imunositokimia

1. Perhitungan Rata – rata ekspresi p53
   - Ekstrak
     a. Perhitungan Rata-rata (Σ) Ekspresi p53 pada ½ IC_{50} Ekstrak

     $$\text{Rata-rata} : \frac{10,42+10,45+11,90}{3} = 10,92$$

     b. Perhitungan Rata-rata (Σ) Ekspresi p53 pada 1 IC_{50} Ekstrak

     $$\text{Rata-rata} : \frac{15,35+14,46+14,03}{3} = 14,61$$

     c. Perhitungan Rata-rata (Σ) Ekspresi p53 pada 2 IC_{50} Ekstrak

     $$\text{Rata-rata} : \frac{17,70+18,77+18,38}{3} = 18,28$$

   - Kontrol sel

     a. Perhitungan Rata-rata (Σ) Ekspresi p53 pada kontrol sel

     $$\text{Rata-rata} : \frac{7,27 +7,37 +5,82}{3} = 6,82$$

2. Peningkatan Ekspresi p53

   $$\text{Peningkatan Ekspresi p53} = \frac{\Sigma \text{ ekspresi p53 ekstrak} - \Sigma \text{ ekspresi p53 kontrol sel}}{\Sigma \text{ ekspresi p53 ekstrak}}$$

   ½ IC_{50} $= (\frac{10,92-6,82}{6,82})$ x 100 % = 60,11 %

   1 IC_{50} $= (\frac{14,61-6,82}{6,82})$ x 100 % = 114,25 %

   2 IC_{50} $= (\frac{18,28-6,82}{6,82})$ x 100 % = 168,04 %

y = 179,21x – 220,27

50 + 220,27 = 179,21 x

270.27 = 179,21 x
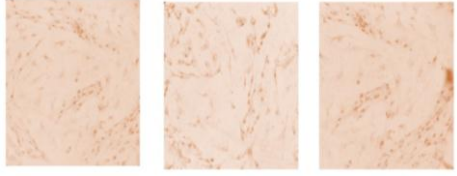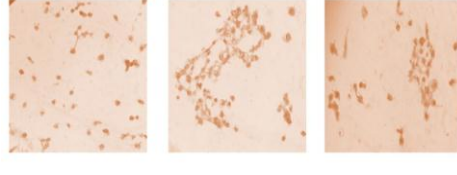
Antilog x = 1,5081

EC_{50} = 32,21 µg/mL
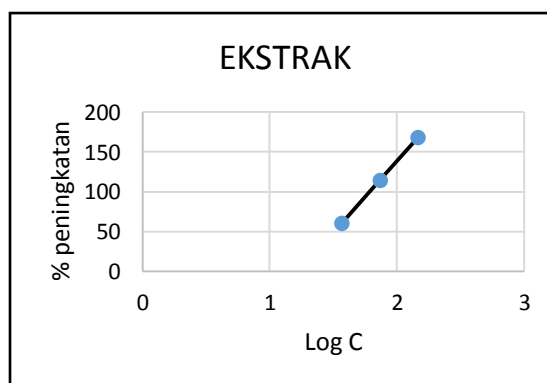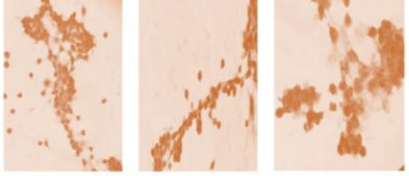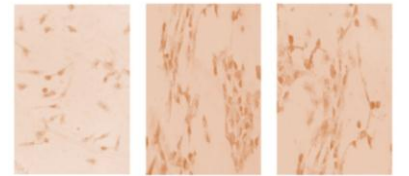
3. Ekspresi p53

   a. Ekstrak

½ IC_{50}	
1 IC_{50}	
2 IC_{50}	

   b. Fraksi Etil Asetat

½ IC_{50}	
1 IC_{50}	
2 IC_{50}	

c. Kontrol positif
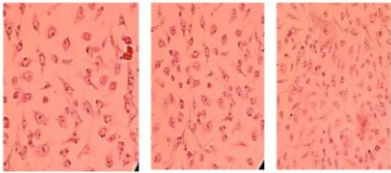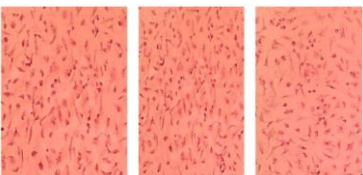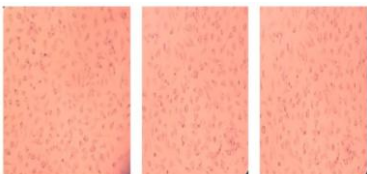
1 IC_{50}	

d. Kontrol sel

4. Ekspresi Bcl-2
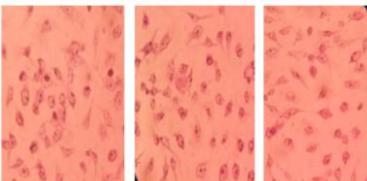
a. Ekstrak
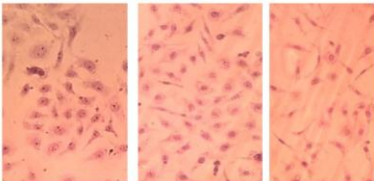
½ IC_{50}	
1 IC_{50}	
2 IC_{50}	

b. Fraksi Etil asetat

½ IC$_{50}$	
1 IC$_{50}$	
2 IC$_{50}$	

c. Kontrol positif

| 1 IC$_{50}$ | |

d. Kontrol sel

| | |

Lampiran 11. Hasil SPSS

1. MTT *assay*

Tests of Normality

perlakuan		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
ic50	ekstrak	.370	3	.	.787	3	.084
	fraksi n-heksan	.342	3	.	.846	3	.230
	fraksi etil asetat	.302	3	.	.910	3	.419
	fraksi air	.366	3	.	.795	3	.103
	kontrol positif	.245	3	.	.971	3	.673

a. Lilliefors Significance Correction

Test of Homogeneity of Variances

ic50

Levene Statistic	df1	df2	Sig.
2.331	4	10	**.127**

ANOVA

ic50

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1168114.886	4	292028.722	815.921	**.000**
Within Groups	3579.132	10	357.913		
Total	1171694.018	14			

Multiple Comparisons

ic50
Tukey HSD

(I) perlakuan	(J) perlakuan	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
ekstrak	fraksi n-heksan	-128.43967*	15.44697	**.000**	-179.2769	-77.6024
	fraksi etil asetat	10.91667	15.44697	.950	-39.9206	61.7539
	fraksi air	-696.65667*	15.44697	**.000**	-747.4939	-645.8194
	kontrol positif	54.20333*	15.44697	.036	3.3661	105.0406
fraksi n-heksan	ekstrak	128.43967*	15.44697	**.000**	77.6024	179.2769
	fraksi etil asetat	139.35633*	15.44697	**.000**	88.5191	190.1936
	fraksi air	-568.21700*	15.44697	**.000**	-619.0542	-517.3798
	kontrol positif	182.64300*	15.44697	**.000**	131.8058	233.4802
fraksi etil asetat	ekstrak	-10.91667	15.44697	.950	-61.7539	39.9206
	fraksi n-heksan	-139.35633*	15.44697	**.000**	-190.1936	-88.5191

	fraksi air	-707.57333[*]	15.44697	**.000**	-758.4106	-656.7361
	kontrol positif	43.28667	15.44697	.106	-7.5506	94.1239
fraksi air	ekstrak	696.65667[*]	15.44697	**.000**	645.8194	747.4939
	fraksi n-heksan	568.21700[*]	15.44697	**.000**	517.3798	619.0542
	fraksi etil asetat	707.57333[*]	15.44697	**.000**	656.7361	758.4106
	kontrol positif	750.86000[*]	15.44697	**.000**	700.0228	801.6972
kontrol positif	ekstrak	-54.20333[*]	15.44697	.036	-105.0406	-3.3661
	fraksi n-heksan	-182.64300[*]	15.44697	**.000**	-233.4802	-131.8058
	fraksi etil asetat	-43.28667	15.44697	.106	-94.1239	7.5506
	fraksi air	-750.86000[*]	15.44697	**.000**	-801.6972	-700.0228

*. The mean difference is significant at the 0.05 level.

2. Imunositokimia

a. p53

Tests of Normality

	perlakuan	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
konsentrasi	1/2 ic50 ekstrak	.379	3	.	.765	3	.034
	1 ic50 ekstrak	.257	3	.	.961	3	.621
	2 ic50 ekstrak	.238	3	.	.976	3	.704
	1/2 ic50 f.etil	.330	3	.	.866	3	.286
	1 ic50 f.etil	.321	3	.	.882	3	.332
	2 ic50 f.etil	.384	3	.	.752	3	.004
	kontrol sel	.365	3	.	.798	3	.110
	kontrol positif	.363	3	.	.802	3	.119

a. Lilliefors Significance Correction

Test of Homogeneity of Variances

Konsentrasi

Levene Statistic	df1	df2	Sig.
5.784	7	16	**.002**

Group Statistics

	konsentrasi	N	Mean	Std. Deviation	Std. Error Mean
p53	1/2 ic50	3	10.9233	.84595	.48841
	1 ic50	3	14.6133	.67323	.38869

Independent Samples Test

	Levene's Test for Equality of Variances		t-test for Equality of Means							
									95% Confidence Interval of the Difference	
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
p53 Equal variances assumed	.449	.540	-5.912	4	.004	-3.69000	.62420	-5.42305	-1.95695
Equal variances not assumed			-5.912	3.808	**.005**	-3.69000	.62420	-5.45804	-1.92196

Group Statistics

	konsentrasi	N	Mean	Std. Deviation	Std. Error Mean
p53	1/2 ic50	3	10.9233	.84595	.48841
	2 ic50	3	18.2833	.54151	.31264

Independent Samples Test

	Levene's Test for Equality of Variances		t-test for Equality of Means							
									95% Confidence Interval of the Difference	
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
p53 Equal variances assumed	1.412	.300	-12.692	4	.000	-7.36000	.57990	-8.97007	-5.74993
Equal variances not assumed			-12.692	3.403	**.001**	-7.36000	.57990	-9.08773	-5.63227

Group Statistics

	konsentrasi	N	Mean	Std. Deviation	Std. Error Mean
p53	1/2 ic50	3	10.9233	.84595	.48841
	1/2 ic50 etil	3	10.1033	.67144	.38766

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means							
										95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
p53	Equal variances assumed	.424	.550	1.315	4	.259	.82000	.62356	-.91127	2.55127
	Equal variances not assumed			1.315	3.804	.262	.82000	.62356	-.94703	2.58703

Group Statistics

	konsentrasi	N	Mean	Std. Deviation	Std. Error Mean
p53	1/2 ic50	3	10.9233	.84595	.48841
	1 ic50 etil	3	16.0367	3.90679	2.25559

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means							
										95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
p53	Equal variances assumed	7.348	.053	-2.216	4	.091	-5.11333	2.30786	-11.52098	1.29432
	Equal variances not assumed			-2.216	2.187	.146	-5.11333	2.30786	-14.27190	4.04524

Group Statistics

	konsentrasi	N	Mean	Std. Deviation	Std. Error Mean
p53	1/2 ic50	3	10.9233	.84595	.48841
	2 ic50 etil	3	21.8467	2.50859	1.44834

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference		Lower	Upper
p53	Equal variances assumed	6.310	.066	-7.147	4	.002	-10.92333	1.52847		-15.16705	-6.67962
	Equal variances not assumed			-7.147	2.449	.011	-10.92333	1.52847		-16.46925	-5.37742

Group Statistics

	konsentrasi	N	Mean	Std. Deviation	Std. Error Mean
p53	1/2 ic50	3	10.9233	.84595	.48841
	kontrol sel	3	6.8200	.86747	.50083

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
p53	Equal variances assumed	.004	.950	5.866	4	.004	4.10333	.69956	2.16106	6.04561
	Equal variances not assumed			5.866	3.997	**.004**	4.10333	.69956	2.16057	6.04609

Group Statistics

	konsentrasi	N	Mean	Std. Deviation	Std. Error Mean
p53	1/2 ic50	3	10.9233	.84595	.48841
	kontrol positif	3	15.1100	1.44042	.83162

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference		Lower	Upper
p53	Equal variances assumed	1.961	.234	-4.341	4	.012	-4.18667	.96444		-6.86438	-1.50895
	Equal variances not assumed			-4.341	3.233	**.019**	-4.18667	.96444		-7.13453	-1.23880

Group Statistics

	konsentrasi	N	Mean	Std. Deviation	Std. Error Mean
p53	1 ic50	3	14.6133	.67323	.38869
	2 ic50	3	18.2833	.54151	.31264

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference		Lower	Upper
p53	Equal variances assumed	.199	.679	-7.357	4	.002	-3.67000	.49882		-5.05495	-2.28505

Independent Samples Test

	Levene's Test for Equality of Variances		t-test for Equality of Means							
									95% Confidence Interval of the Difference	
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
p53 Equal variances assumed	.199	.679	-7.357	4	.002	-3.67000	.49882	-5.05495	-2.28505
Equal variances not assumed			-7.357	3.824	**.002**	-3.67000	.49882	-5.08041	-2.25959

Group Statistics

	konsentrasi	N	Mean	Std. Deviation	Std. Error Mean
p53	1 ic50	3	14.6133	.67323	.38869
	1/2 ic50 etil	3	10.1033	.67144	.38766

Independent Samples Test

	Levene's Test for Equality of Variances		t-test for Equality of Means							
									95% Confidence Interval of the Difference	
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
p53 Equal variances assumed	.008	.933	8.216	4	.001	4.51000	.54896	2.98585	6.03415
Equal variances not assumed			8.216	4.000	**.001**	4.51000	.54896	2.98584	6.03416

Group Statistics

	konsentrasi	N	Mean	Std. Deviation	Std. Error Mean
p53	1 ic50	3	14.6133	.67323	.38869
	1 ic50 etil	3	16.0367	3.90679	2.25559

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means							
										95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
p53	Equal variances assumed	8.356	.045	-.622	4	.568	-1.42333	2.28883	-7.77815	4.93149
	Equal variances not assumed			-.622	2.119	.594	-1.42333	2.28883	-10.76120	7.91454

Group Statistics

	konsentrasi	N	Mean	Std. Deviation	Std. Error Mean
p53	1 ic50	3	14.6133	.67323	.38869
	2 ic50 etil	3	21.8467	2.50859	1.44834

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means							
										95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
p53	Equal variances assumed	7.867	.049	-4.824	4	.009	-7.23333	1.49959	-11.39685	-3.06982

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference		Lower	Upper
p53	Equal variances assumed	7.867	.049	-4.824	4	.009	-7.23333	1.49959		-11.39685	-3.06982
	Equal variances not assumed			-4.824	2.287	**.031**	-7.23333	1.49959		-12.96927	-1.49739

Group Statistics

	konsentrasi	N	Mean	Std. Deviation	Std. Error Mean
p53	1 ic50	3	14.6133	.67323	.38869
	kontrol sel	3	6.8200	.86747	.50083

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference		Lower	Upper
p53	Equal variances assumed	.522	.510	12.293	4	.000	7.79333	.63396		6.03317	9.55350
	Equal variances not assumed			12.293	3.768	**.000**	7.79333	.63396		5.98957	9.59710

Group Statistics

	konsentrasi	N	Mean	Std. Deviation	Std. Error Mean
p53	1 ic50	3	14.6133	.67323	.38869

Group Statistics

	konsentrasi	N	Mean	Std. Deviation	Std. Error Mean
p53	1 ic50	3	14.6133	.67323	.38869
	kontrol positif	3	15.1100	1.44042	.83162

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
p53	Equal variances assumed	3.453	.137	-.541	4	.617	-.49667	.91797	-3.04537	2.05204
	Equal variances not assumed			-.541	2.834	.628	-.49667	.91797	-3.51731	2.52398

Group Statistics

	konsentrasi	N	Mean	Std. Deviation	Std. Error Mean
p53	2 ic50	3	18.2833	.54151	.31264
	1/2 ic50 etil	3	10.1033	.67144	.38766

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
p53	Equal variances assumed	.357	.582	16.425	4	.000	8.18000	.49802	6.79728	9.56272

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
p53	Equal variances assumed	.357	.582	16.425	4	.000	8.18000	.49802	6.79728	9.56272
	Equal variances not assumed			16.425	3.828	**.000**	8.18000	.49802	6.77247	9.58753

Group Statistics

	konsentrasi	N	Mean	Std. Deviation	Std. Error Mean
p53	2 ic50	3	18.2833	.54151	.31264
	1 ic50 etil	3	16.0367	3.90679	2.25559

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
p53	Equal variances assumed	9.166	.039	.987	4	.380	2.24667	2.27715	-4.07572	8.56905
	Equal variances not assumed			.987	2.077	.425	2.24667	2.27715	-7.21190	11.70523

Group Statistics

	konsentrasi	N	Mean	Std. Deviation	Std. Error Mean
p53	2 ic50	3	18.2833	.54151	.31264
	2 ic50 etil	3	21.8467	2.50859	1.44834

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
p53	Equal variances assumed	9.320	.038	-2.405	4	.074	-3.56333	1.48170	-7.67718	.55051
	Equal variances not assumed			-2.405	2.186	.127	-3.56333	1.48170	-9.44597	2.31931

Group Statistics

	konsentrasi	N	Mean	Std. Deviation	Std. Error Mean
p53	2 ic50	3	18.2833	.54151	.31264
	kontrol sel	3	6.8200	.86747	.50083

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
p53	Equal variances assumed	1.521	.285	19.416	4	.000	11.46333	.59040	9.82411	13.10256

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
p53	Equal variances assumed	1.521	.285	19.416	4	.000	11.46333	.59040	9.82411	13.10256
	Equal variances not assumed			19.416	3.353	**.000**	11.46333	.59040	9.69156	13.23511

Group Statistics

	konsentrasi	N	Mean	Std. Deviation	Std. Error Mean
p53	2 ic50	3	18.2833	.54151	.31264
	kontrol positif	3	15.1100	1.44042	.83162

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
p53	Equal variances assumed	5.082	.087	3.572	4	.023	3.17333	.88845	.70660	5.64007
	Equal variances not assumed			3.572	2.554	**.048**	3.17333	.88845	.04518	6.30149

Group Statistics

	konsentrasi	N	Mean	Std. Deviation	Std. Error Mean
p53	1/2 ic50 etil	3	10.1033	.67144	.38766
	1 ic50 etil	3	16.0367	3.90679	2.25559

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
p53	Equal variances assumed	8.345	.045	-2.592	4	.061	-5.93333	2.28866	-12.28767	.42100
	Equal variances not assumed			-2.592	2.118	.115	-5.93333	2.28866	-15.27295	3.40628

Group Statistics

	konsentrasi	N	Mean	Std. Deviation	Std. Error Mean
p53	1/2 ic50 etil	3	10.1033	.67144	.38766
	2 ic50 etil	3	21.8467	2.50859	1.44834

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
p53	Equal variances assumed	7.978	.048	-7.832	4	.001	-11.74333	1.49932	-15.90611	-7.58056

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
p53	Equal variances assumed	7.978	.048	-7.832	4	.001	-11.74333	1.49932	-15.90611	-7.58056
	Equal variances not assumed			-7.832	2.285	**.011**	-11.74333	1.49932	-17.48128	-6.00538

Group Statistics

	konsentrasi	N	Mean	Std. Deviation	Std. Error Mean
p53	1/2 ic50 etil	3	10.1033	.67144	.38766
	kontrol sel	3	6.8200	.86747	.50083

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
p53	Equal variances assumed	.501	.518	5.184	4	.007	3.28333	.63333	1.52492	5.04175
	Equal variances not assumed			5.184	3.763	**.008**	3.28333	.63333	1.48047	5.08620

Group Statistics

	konsentrasi	N	Mean	Std. Deviation	Std. Error Mean
p53	1/2 ic50 etil	3	10.1033	.67144	.38766
	kontrol positif	3	15.1100	1.44042	.83162

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
p53	Equal variances assumed	3.586	.131	-5.457	4	.005	-5.00667	.91754	-7.55416	-2.45917
	Equal variances not assumed			-5.457	2.830	.014	-5.00667	.91754	-8.02849	-1.98485

Group Statistics

	konsentrasi	N	Mean	Std. Deviation	Std. Error Mean
p53	1 ic50 etil	3	16.0367	3.90679	2.25559
	2 ic50 etil	3	21.8467	2.50859	1.44834

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
p53	Equal variances assumed	1.139	.346	-2.167	4	.096	-5.81000	2.68055	-13.25240	1.63240

Independent Samples Test

	Levene's Test for Equality of Variances		t-test for Equality of Means							
									95% Confidence Interval of the Difference	
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
p53 Equal variances assumed	1.139	.346	-2.167	4	.096	-5.81000	2.68055	-13.25240	1.63240
Equal variances not assumed			-2.167	3.410	.108	-5.81000	2.68055	-13.78927	2.16927

Group Statistics

	konsentrasi	N	Mean	Std. Deviation	Std. Error Mean
p53	1 ic50 etil	3	16.0367	3.90679	2.25559
	kontrol sel	3	6.8200	.86747	.50083

Independent Samples Test

	Levene's Test for Equality of Variances		t-test for Equality of Means							
									95% Confidence Interval of the Difference	
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
p53 Equal variances assumed	7.229	.055	3.989	4	.016	9.21667	2.31052	2.80163	15.63170
Equal variances not assumed			3.989	2.197	**.049**	9.21667	2.31052	.08157	18.35176

Group Statistics

	konsentrasi	N	Mean	Std. Deviation	Std. Error Mean
p53	1 ic50 etil	3	16.0367	3.90679	2.25559
	kontrol positif	3	15.1100	1.44042	.83162

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
p53	Equal variances assumed	4.417	.103	.385	4	.720	.92667	2.40401	-5.74794	7.60128
	Equal variances not assumed			.385	2.534	.730	.92667	2.40401	-7.58520	9.43853

Group Statistics

	konsentrasi	N	Mean	Std. Deviation	Std. Error Mean
p53	2 ic50 etil	3	21.8467	2.50859	1.44834
	kontrol sel	3	6.8200	.86747	.50083

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
p53	Equal variances assumed	6.110	.069	9.805	4	.001	15.02667	1.53249	10.77181	19.28153

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
p53	Equal variances assumed	6.110	.069	9.805	4	.001	15.02667	1.53249	10.77181	19.28153
	Equal variances not assumed			9.805	2.472	**.005**	15.02667	1.53249	9.50320	20.55013

Group Statistics

	konsentrasi	N	Mean	Std. Deviation	Std. Error Mean
p53	2 ic50 etil	3	21.8467	2.50859	1.44834
	kontrol positif	3	15.1100	1.44042	.83162

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
p53	Equal variances assumed	2.176	.214	4.034	4	.016	6.73667	1.67011	2.09969	11.37364
	Equal variances not assumed			4.034	3.189	**.024**	6.73667	1.67011	1.59587	11.87746

Group Statistics

	konsentrasi	N	Mean	Std. Deviation	Std. Error Mean
p53	kontrol sel	3	6.8200	.86747	.50083
	kontrol positif	3	15.1100	1.44042	.83162

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
p53	Equal variances assumed	1.795	.251	-8.539	4	.001	-8.29000	.97079	-10.98535	-5.59465
	Equal variances not assumed			-8.539	3.282	**.002**	-8.29000	.97079	-11.23457	-5.34543

b. Bcl-2

Tests of Normality

		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	konsentrasi	Statistic	df	Sig.	Statistic	df	Sig.
hasil	1/2 ic50 ekstrak	.288	3	.	.929	3	.483
	1 ic50 ekstrak	.340	3	.	.850	3	.239
	2 ic50 ekstrak	.246	3	.	.970	3	.668
	1/2 ic50 f.etil	.352	3	.	.826	3	.179
	1 ic50 f.etil	.207	3	.	.992	3	.831
	2 ic50 f.etil	.193	3	.	.997	3	.890
	kontrol sel	.318	3	.	.887	3	.344
	kontrol positif	.267	3	.	.951	3	.574

a. Lilliefors Significance Correction

Test of Homogeneity of Variances

hasil

Levene Statistic	df1	df2	Sig.
2.793	7	16	**.042**

Group Statistics

	konsentrasi	N	Mean	Std. Deviation	Std. Error Mean
hasil	1/2 ic50 ekstrak	3	13.0267	2.89528	1.67159
	1 ic50 ekstrak	3	8.8367	1.07946	.62323

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means							
										95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
hasil	Equal variances assumed	3.454	.137	2.349	4	.079	4.19000	1.78399	-.76315	9.14315
	Equal variances not assumed			2.349	2.545	.116	4.19000	1.78399	-2.10636	10.48636

Group Statistics

	konsentrasi	N	Mean	Std. Deviation	Std. Error Mean
hasil	1/2 ic50 ekstrak	3	13.0267	2.89528	1.67159
	2 ic50 ekstrak	3	4.6733	.93409	.53930

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means							
										95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
hasil	Equal variances assumed	4.154	.111	4.756	4	.009	8.35333	1.75643	3.47669	13.22997

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
hasil	Equal variances assumed	4.154	.111	4.756	4	.009	8.35333	1.75643	3.47669	13.22997
	Equal variances not assumed			4.756	2.412	**.028**	8.35333	1.75643	1.90751	14.79916

Group Statistics

	konsentrasi	N	Mean	Std. Deviation	Std. Error Mean
hasil	1/2 ic50 ekstrak	3	13.0267	2.89528	1.67159
	1/2 ic50 f.etil	3	11.6333	.58859	.33982

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
hasil	Equal variances assumed	6.069	.069	.817	4	.460	1.39333	1.70578	-3.34267	6.12934
	Equal variances not assumed			.817	2.165	.494	1.39333	1.70578	-5.43517	8.22184

Group Statistics

	konsentrasi	N	Mean	Std. Deviation	Std. Error Mean
hasil	1/2 ic50 ekstrak	3	13.0267	2.89528	1.67159

Group Statistics

	konsentrasi	N	Mean	Std. Deviation	Std. Error Mean
hasil	1/2 ic50 ekstrak	3	13.0267	2.89528	1.67159
	1 ic50 f.etil	3	7.7800	1.56614	.90421

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means							
										95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper	
hasil	Equal variances assumed	1.651	.268	2.761	4	.051	5.24667	1.90048	-.02990	10.52324	
	Equal variances not assumed			2.761	3.078	.068	5.24667	1.90048	-.71559	11.20892	

Group Statistics

	konsentrasi	N	Mean	Std. Deviation	Std. Error Mean
hasil	1/2 ic50 ekstrak	3	13.0267	2.89528	1.67159
	2 ic50 f.etil	3	4.4533	.20033	.11566

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means							
										95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper	
hasil	Equal variances assumed	8.680	.042	5.117	4	.007	8.57333	1.67559	3.92116	13.22551	

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
hasil	Equal variances assumed	8.680	.042	5.117	4	.007	8.57333	1.67559	3.92116	13.22551
	Equal variances not assumed			5.117	2.019	**.035**	8.57333	1.67559	1.42900	15.71767

Group Statistics

	konsentrasi	N	Mean	Std. Deviation	Std. Error Mean
hasil	1/2 ic50 ekstrak	3	13.0267	2.89528	1.67159
	kontrol sel	3	21.0867	2.15073	1.24172

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
hasil	Equal variances assumed	.410	.557	-3.871	4	.018	-8.06000	2.08233	-13.84147	-2.27853
	Equal variances not assumed			-3.871	3.692	**.021**	-8.06000	2.08233	-14.03672	-2.08328

Group Statistics

	konsentrasi	N	Mean	Std. Deviation	Std. Error Mean
hasil	1/2 ic50 ekstrak	3	13.0267	2.89528	1.67159
	kontrol positif	3	8.7000	2.19427	1.26686

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means							
										95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference		Lower	Upper
hasil	Equal variances assumed	.385	.568	2.063	4	.108	4.32667	2.09741		-1.49669	10.15002
	Equal variances not assumed			2.063	3.728	.113	4.32667	2.09741		-1.66844	10.32177

Group Statistics

	konsentrasi	N	Mean	Std. Deviation	Std. Error Mean
hasil	1 ic50 ekstrak	3	8.8367	1.07946	.62323
	2 ic50 ekstrak	3	4.6733	.93409	.53930

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means							
										95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference		Lower	Upper
hasil	Equal variances assumed	.199	.678	5.052	4	.007	4.16333	.82417		1.87507	6.45160

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
hasil	Equal variances assumed	.199	.678	5.052	4	.007	4.16333	.82417	1.87507	6.45160
	Equal variances not assumed			5.052	3.919	**.008**	4.16333	.82417	1.85633	6.47033

Group Statistics

	konsentrasi	N	Mean	Std. Deviation	Std. Error Mean
hasil	1 ic50 ekstrak	3	8.8367	1.07946	.62323
	1/2 ic50 f.etil	3	11.6333	.58859	.33982

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
hasil	Equal variances assumed	2.238	.209	-3.940	4	.017	-2.79667	.70985	-4.76753	-.82580
	Equal variances not assumed			-3.940	3.093	**.028**	-2.79667	.70985	-5.01792	-.57541

Group Statistics

	konsentrasi	N	Mean	Std. Deviation	Std. Error Mean
hasil	1 ic50 ekstrak	3	8.8367	1.07946	.62323
	1 ic50 f.etil	3	7.7800	1.56614	.90421

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
hasil	Equal variances assumed	.269	.631	.962	4	.390	1.05667	1.09819	-1.99238	4.10572
	Equal variances not assumed			.962	3.550	.397	1.05667	1.09819	-2.15088	4.26422

Group Statistics

	konsentrasi	N	Mean	Std. Deviation	Std. Error Mean
hasil	1 ic50 ekstrak	3	8.8367	1.07946	.62323
	2 ic50 f.etil	3	4.4533	.20033	.11566

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
hasil	Equal variances assumed	8.991	.040	6.915	4	.002	4.38333	.63387	2.62343	6.14323

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means							
										95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper	
hasil	Equal variances assumed	8.991	.040	6.915	4	.002	4.38333	.63387	2.62343	6.14323	
	Equal variances not assumed			6.915	2.138	**.017**	4.38333	.63387	1.81754	6.94912	

Group Statistics

	konsentrasi	N	Mean	Std. Deviation	Std. Error Mean
hasil	1 ic50 ekstrak	3	8.8367	1.07946	.62323
	kontrol sel	3	21.0867	2.15073	1.24172

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means							
										95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper	
hasil	Equal variances assumed	2.453	.192	-8.817	4	.001	-12.25000	1.38935	-16.10745	-8.39255	
	Equal variances not assumed			-8.817	2.948	**.003**	-12.25000	1.38935	-16.71641	-7.78359	

Group Statistics

	konsentrasi	N	Mean	Std. Deviation	Std. Error Mean
hasil	1 ic50 ekstrak	3	8.8367	1.07946	.62323
	kontrol positif	3	8.7000	2.19427	1.26686

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
hasil	Equal variances assumed	1.768	.254	.097	4	.928	.13667	1.41186	-3.78328	4.05661
	Equal variances not assumed			.097	2.914	.929	.13667	1.41186	-4.43201	4.70534

Group Statistics

	konsentrasi	N	Mean	Std. Deviation	Std. Error Mean
hasil	2 ic50 ekstrak	3	4.6733	.93409	.53930
	1/2 ic50 f.etil	3	11.6333	.58859	.33982

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
hasil	Equal variances assumed	.660	.462	-10.919	4	.000	-6.96000	.63743	-8.72980	-5.19020

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
hasil	Equal variances assumed	.660	.462	-10.919	4	.000	-6.96000	.63743	-8.72980	-5.19020
	Equal variances not assumed			-10.919	3.372	**.001**	-6.96000	.63743	-8.86771	-5.05229

Group Statistics

	konsentrasi	N	Mean	Std. Deviation	Std. Error Mean
hasil	2 ic50 ekstrak	3	4.6733	.93409	.53930
	1 ic50 f.etil	3	7.7800	1.56614	.90421

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
hasil	Equal variances assumed	.618	.476	-2.951	4	.042	-3.10667	1.05283	-6.02978	-.18355
	Equal variances not assumed			-2.951	3.263	.054	-3.10667	1.05283	-6.30948	.09614

Group Statistics

	konsentrasi	N	Mean	Std. Deviation	Std. Error Mean
hasil	2 ic50 ekstrak	3	4.6733	.93409	.53930
	2 ic50 f.etil	3	4.4533	.20033	.11566

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
hasil	Equal variances assumed	4.346	.105	.399	4	.710	.22000	.55156	-1.31139	1.75139
	Equal variances not assumed			.399	2.184	.726	.22000	.55156	-1.97186	2.41186

Group Statistics

	konsentrasi	N	Mean	Std. Deviation	Std. Error Mean
hasil	2 ic50 ekstrak	3	4.6733	.93409	.53930
	kontrol sel	3	21.0867	2.15073	1.24172

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
hasil	Equal variances assumed	3.270	.145	-12.124	4	.000	-16.41333	1.35378	-20.17203	-12.65464

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
hasil	Equal variances assumed	3.270	.145	-12.124	4	.000	-16.41333	1.35378	-20.17203	-12.65464
	Equal variances not assumed			-12.124	2.729	**.002**	-16.41333	1.35378	-20.97454	-11.85212

Group Statistics

	konsentrasi	N	Mean	Std. Deviation	Std. Error Mean
hasil	2 ic50 ekstrak	3	4.6733	.93409	.53930
	kontrol positif	3	8.7000	2.19427	1.26686

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
hasil	Equal variances assumed	2.402	.196	-2.925	4	.043	-4.02667	1.37687	-7.84948	-.20386
	Equal variances not assumed			-2.925	2.702	.070	-4.02667	1.37687	-8.69518	.64184

Group Statistics

	konsentrasi	N	Mean	Std. Deviation	Std. Error Mean
hasil	1/2 ic50 f.etil	3	11.6333	.58859	.33982
	1 ic50 f.etil	3	7.7800	1.56614	.90421

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
hasil	Equal variances assumed	1.765	.255	3.989	4	.016	3.85333	.96596	1.17140	6.53527
	Equal variances not assumed			3.989	2.554	**.038**	3.85333	.96596	.45196	7.25471

Group Statistics

	konsentrasi	N	Mean	Std. Deviation	Std. Error Mean
hasil	1/2 ic50 f.etil	3	11.6333	.58859	.33982
	2 ic50 f.etil	3	4.4533	.20033	.11566

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
hasil	Equal variances assumed	5.574	.078	20.002	4	.000	7.18000	.35896	6.18335	8.17665

Independent Samples Test

	Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
hasil Equal variances assumed	5.574	.078	20.002	4	.000	7.18000	.35896	6.18335	8.17665
Equal variances not assumed			20.002	2.457	**.001**	7.18000	.35896	5.88071	8.47929

Group Statistics

	konsentrasi	N	Mean	Std. Deviation	Std. Error Mean
hasil	1/2 ic50 f.etil	3	11.6333	.58859	.33982
	kontrol sel	3	21.0867	2.15073	1.24172

Independent Samples Test

	Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
hasil Equal variances assumed	6.058	.070	-7.343	4	.002	-9.45333	1.28738	-13.02768	-5.87898
Equal variances not assumed			-7.343	2.298	**.012**	-9.45333	1.28738	-14.35818	-4.54849

Group Statistics

	konsentrasi	N	Mean	Std. Deviation	Std. Error Mean
hasil	1/2 ic50 f.etil	3	11.6333	.58859	.33982
	kontrol positif	3	8.7000	2.19427	1.26686

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means							
										95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
hasil	Equal variances assumed	4.258	.108	2.236	4	.089	2.93333	1.31164	-.70838	6.57504
	Equal variances not assumed			2.236	2.286	.139	2.93333	1.31164	-2.08421	7.95088

Group Statistics

	konsentrasi	N	Mean	Std. Deviation	Std. Error Mean
hasil	1 ic50 f.etil	3	7.7800	1.56614	.90421
	2 ic50 f.etil	3	4.4533	.20033	.11566

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means							
										95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
hasil	Equal variances assumed	4.080	.114	3.649	4	.022	3.32667	.91158	.79572	5.85762

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
hasil	Equal variances assumed	4.080	.114	3.649	4	.022	3.32667	.91158	.79572	5.85762
	Equal variances not assumed			3.649	2.065	.064	3.32667	.91158	-.47885	7.13218

Group Statistics

	konsentrasi	N	Mean	Std. Deviation	Std. Error Mean
hasil	1 ic50 f.etil	3	7.7800	1.56614	.90421
	kontrol sel	3	21.0867	2.15073	1.24172

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
hasil	Equal variances assumed	.659	.462	-8.663	4	.001	-13.30667	1.53606	-17.57145	-9.04188
	Equal variances not assumed			-8.663	3.656	**.001**	-13.30667	1.53606	-17.73471	-8.87862

Group Statistics

	konsentrasi	N	Mean	Std. Deviation	Std. Error Mean
hasil	1 ic50 f.etil	3	7.7800	1.56614	.90421
	kontrol positif	3	8.7000	2.19427	1.26686

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
hasil	Equal variances assumed	.517	.512	-.591	4	.586	-.92000	1.55645	-5.24140	3.40140
	Equal variances not assumed			-.591	3.618	.589	-.92000	1.55645	-5.42751	3.58751

Group Statistics

	konsentrasi	N	Mean	Std. Deviation	Std. Error Mean
hasil	2 ic50 f.etil	3	4.4533	.20033	.11566
	kontrol sel	3	21.0867	2.15073	1.24172

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
hasil	Equal variances assumed	10.147	.033	-13.338	4	.000	-16.63333	1.24710	-20.09583	-13.17083

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
hasil	Equal variances assumed	10.147	.033	-13.338	4	.000	-16.63333	1.24710	-20.09583	-13.17083
	Equal variances not assumed			-13.338	2.035	**.005**	-16.63333	1.24710	-21.91241	-11.35425

Group Statistics

	konsentrasi	N	Mean	Std. Deviation	Std. Error Mean
hasil	2 ic50 f.etil	3	4.4533	.20033	.11566
	kontrol positif	3	8.7000	2.19427	1.26686

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
hasil	Equal variances assumed	7.083	.056	-3.338	4	.029	-4.24667	1.27213	-7.77866	-.71467
	Equal variances not assumed			-3.338	2.033	.077	-4.24667	1.27213	-9.63508	1.14175

Group Statistics

	konsentrasi	N	Mean	Std. Deviation	Std. Error Mean
hasil	kontrol sel	3	21.0867	2.15073	1.24172
	kontrol positif	3	8.7000	2.19427	1.26686

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference		Lower	Upper
hasil	Equal variances assumed	.000	.984	6.983	4	.002	12.38667	1.77393		7.46146	17.31187
	Equal variances not assumed			6.983	3.998	**.002**	12.38667	1.77393		7.46068	17.31265