

LAMPIRAN

Lampiran 1. Surat Izin Penelitian

 MAJELIS PENDIDIKAN TINGGI, PENELITIAN DAN PENGEMBANGAN
UNIVERSITAS MUHAMMADIYAH PALOPO
LEMBAGA PENELITIAN DAN PENGABDIAN KEPADA MASYARAKAT (LPPM)
L1. 2 Gedung MCC Universitas Muhammadiyah Palopo
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Nomor : 712/III.3.AU/LPPM/F/2025
Lampiran : -
Perihal : Permohonan Izin Penelitian

Palopo, 28 November 2025

Kepada Yth
Kepala Lab Farmasi UM.Palopo
Di _____
Tempat _____

Assalamu 'alaikum warahmatullahi wabarakatuh

Dengan hormat, disampaikan bahwa dalam rangka pelaksanaan penelitian Mahasiswa Universitas Muhammadiyah Palopo, mohon kiranya diberikan izin untuk melakukan kegiatan penelitian kepada:

Nama : Citra Amelia
NIM : 221320086
Jurusan : SI Farmasi
Alamat : Banawa, Kota Palopo
Jenis Kelamin : Perempuan
No.Hp/Wa : 081242127176

Untuk melengkapi data penelitian yang berkaitan dengan Judul **"Efektivitas Gel Antiinflamasi Ekstrak Daun Magkokan (Nothopanax Scutellariu) Terhadap Mencit (Mus Musculus) Yang Di Induksi Karagenan"** yang akan dilakukan pada November-Desember 2025

Demikian permohonan dari kami, atas kerjasama yang baik diucapkan terima kasih.

Wassalamu 'alaikum warahmatullahi wabarakatuh


Junaidi, SE., Ak., M.Ak., CA., Ph.D
NIDN: 0910067705

Tembusan:
- Dekan Bersangkutan

SURAT IZIN PENELITIAN

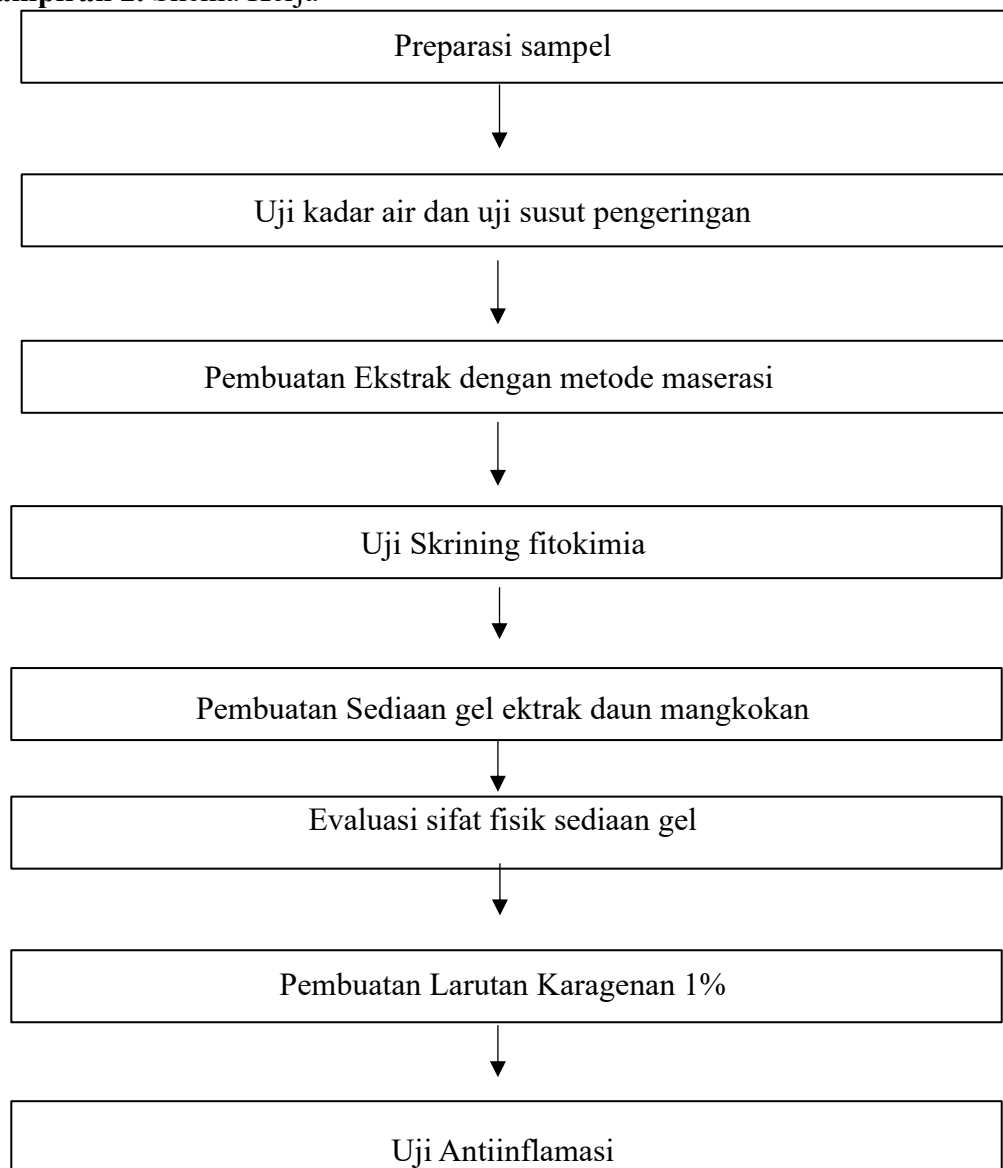
Yang bertanda tangan di bawah ini Sekertaris Program Studi Farmasi menyatakan,

Nama : CITRA AMELIA
NIM : 221320086

Dapat melaksanakan penelitian di Laboratorium **MICRO & TISSUE** Fakultas Farmasi Universitas Muhammadiyah Palopo.

Palopo, 12/12/2025

Apt. Andi Seti Hardiyanti, S.Farm., M.Farm.
NUPTK 4049774675230303

Lampiran 2. Skema Kerja

Lampiran 3. Perhitungan Rendemen Ekstrak

$$\text{Rendemen ekstrak (\%)} = \frac{\text{Bobot ekstrak dihasilkan}}{\text{Bobot awal simplisia yang digunakan}} \times 100\%$$

Diketahui: Bobot ekstrak dihasilkan = 60 gr
 Bobot awal simplisia yang digunakan = 300 gr

Ditanyakan Rendemen ekstrak (%) = $\frac{60 \text{ gr}}{300 \text{ gr}} \times 100\% = 20\%$

Lampiran 4. Perhitungan Uji Kadar Air

Rumus $= \frac{(A-B)}{(C)} \times 100\%$

Perhitungan $= \frac{58,8-58,5}{5} \times 100\%$
 $= \frac{0,3}{5} \times 100\%$
 $= 6\%$

Keterangan:

A : Berat cawan porselin + simplisia sebelum dioven

B : Berat cawan porselin + simplisia sesudah dioven

C : Berat simplisia

Lampiran 5. Uji Susut Pengeringan

Rumus $= \frac{(B-A)-(C-A)}{(B-A)} \times 100\%$

Perhitungan $= \frac{(48,5-46,5)-(48,3-46,5)}{(48,5-46,5)} \times 10$
 $= \frac{2-1,8}{2} \times 100\%$
 $= \frac{0,2}{2} \times 100\%$
 $= 10\%$

Keterangan:

A : Berat cawan porselin kosong

B : Berat cawan porselin + simplisia sebelum dioven

C : Berat cawan porselin + simplisia sesudah dioven

Lampiran 6. Perhitungan Formulasi Bahan Sediaan Gel

a. F0 (Basis gel)

$$\begin{aligned}
 \text{Carbopol 1\%} &= \frac{1}{100} \times 40 = 0,4 \text{ gr} \times 1000 = 400 \text{ mg} \\
 \text{Propilenglikol 5\%} &= \frac{5}{100} \times 40 = 2 \text{ gr} \times 1000 = 2000 \text{ mg} \\
 \text{TEA 1,5 \%} &= \frac{1,5}{100} \times 40 = 0,6 \text{ gr} \times 1000 = 600 \text{ mg} \\
 \text{Metil paraben 0,18\%} &= \frac{0,18}{100} \times 40 = 0,072 \text{ gr} \times 1000 = 72 \text{ mg} \\
 \text{Propil paraben 0,05\%} &= \frac{0,05}{100} \times 40 = 0,02 \text{ gr} \times 1000 = 20 \text{ mg} \\
 \text{Aquades} &= 40 \text{ gr} \times 1000 \text{ mg} = 40.000 \text{ mg} \\
 &= 40.000 - (400 + 2000 + 600 + 72 + 20) \\
 &= 40.000 - 3.092 \\
 &= 36.908 \text{ mg}
 \end{aligned}$$

b. F1 konsentrasi 300 mg

$$\begin{aligned}
 \text{Ekstrak daun mangkokan} &= 300 \text{ mg} \\
 \text{Carbopol 1\%} &= \frac{1}{100} \times 40 = 0,4 \text{ gr} \times 1000 = 400 \text{ mg} \\
 \text{Propilenglikol 5\%} &= \frac{5}{100} \times 40 = 2 \text{ gr} \times 1000 = 2000 \text{ mg} \\
 \text{TEA 1,5 \%} &= \frac{1,5}{100} \times 40 = 0,6 \text{ gr} \times 1000 = 600 \text{ mg} \\
 \text{Metil paraben 0,18\%} &= \frac{0,18}{100} \times 40 = 0,072 \text{ gr} \times 1000 = 72 \text{ mg} \\
 \text{Propil paraben 0,05\%} &= \frac{0,05}{100} \times 40 = 0,02 \text{ gr} \times 1000 = 20 \text{ mg} \\
 \text{Aquades} &= 40 \text{ gr} \times 1000 \text{ mg} = 40.000 \text{ mg} \\
 &= 40.000 - (300 + 400 + 2000 + 600 + 72 + 20) \\
 &= 40.000 - 3.392 \\
 &= 36.608 \text{ mg}
 \end{aligned}$$

c. F 2 konsentrasi 400 mg

$$\text{Ekstrak daun mangkokan} = 400 \text{ mg}$$

$$\text{Carbopol 1\%} = \frac{1}{100} \times 40 = 0,4 \text{ gr} \times 1000 = 400 \text{ mg}$$

$$\text{Propilenglikol 5\%} = \frac{5}{100} \times 40 = 2 \text{ gr} \times 1000 = 2000 \text{ mg}$$

$$\text{TEA 1,5 \%} = \frac{1,5}{100} \times 40 = 0,6 \text{ gr} \times 1000 = 600 \text{ mg}$$

$$\text{Metil paraben 0,18\%} = \frac{0,18}{100} \times 40 = 0,072 \text{ gr} \times 1000 = 72 \text{ mg}$$

$$\text{Propil paraben 0,05\%} = \frac{0,05}{100} \times 40 = 0,02 \text{ gr} \times 1000 = 20 \text{ mg}$$

$$\begin{aligned} \text{Aquades} &= 40 \text{ gr} \times 1000 \text{ mg} = 40.000 \text{ mg} \\ &= 40.000 - (400 + 400 + 2000 + 600 + 72 + 20) \\ &= 40.000 - 3.492 \\ &= 36.508 \text{ mg} \end{aligned}$$

d. F3 Konsentrasi 500 mg

$$\text{Ekstrak daun mangkokan} = 500 \text{ mg}$$

$$\text{Carbopol 1\%} = \frac{1}{100} \times 40 = 0,4 \text{ gr} \times 1000 = 400 \text{ mg}$$

$$\text{Propilenglikol 5\%} = \frac{5}{100} \times 40 = 2 \text{ gr} \times 1000 = 2000 \text{ mg}$$

$$\text{TEA 1,5 \%} = \frac{1,5}{100} \times 40 = 0,6 \text{ gr} \times 1000 = 600 \text{ mg}$$

$$\text{Metil paraben 0,18\%} = \frac{0,18}{100} \times 40 = 0,072 \text{ gr} \times 1000 = 72 \text{ mg}$$

$$\text{Propil paraben 0,05\%} = \frac{0,05}{100} \times 40 = 0,02 \text{ gr} \times 1000 = 20 \text{ mg}$$

$$\begin{aligned} \text{Aquades} &= 40 \text{ gr} \times 1000 \text{ mg} = 40.000 \text{ mg} \\ &= 40.000 - (500 + 400 + 2000 + 600 + 72 + 20) \\ &= 40.000 - 3.592 \\ &= 36.408 \text{ mg} \end{aligned}$$

Lampiran 7. Hasil Data Pengukuran Volume Edema Mencit

Perlakuan		Sebelum induksi	Setelah induksi	Menit 30	Menit 60	Menit 90	Menit 120
K-	1	1,52	2,92	2,90	2,89	2,97	2,99
	2	1,49	2,98	2,95	2,95	2,87	2,91
	3	1,53	3,10	3,03	2,95	2,93	2,97
	4	1,45	2,78	2,80	2,78	2,83	2,83
	5	1,51	3,03	2,94	2,90	2,92	2,96
Rata-rata		1,5	2,96	2,92	2,89	2,90	2,93
K+	1	1,67	3,15	2,63	2,30	1,90	1,69
	2	1,52	2,96	2,33	2,01	1,86	1,54
	3	1,65	3,15	2,60	2,16	1,88	1,67
	4	1,65	3,03	2,65	2,23	1,87	1,67
	5	1,50	2,98	2,35	1,98	1,70	1,51
Rata-rata		1,59	3,05	2,51	2,11	1,84	1,61
F1	1	1,63	3,12	2,82	2,61	2,24	1,80
	2	1,51	2,90	2,54	2,19	1,93	1,74
	3	1,55	3,11	2,76	2,30	2,03	1,72
	4	1,46	2,88	2,51	2,20	1,97	1,60
	5	1,59	3,20	2,83	2,47	2,12	1,86
Rata-rata		1,54	3,04	2,69	2,35	2,05	1,74
F2	1	1,56	2,86	2,51	2,26	2,06	1,76
	2	1,60	2,87	2,62	2,39	2,14	1,89
	3	1,76	3,34	2,94	2,70	2,34	1,91
	4	1,55	2,98	2,63	2,28	1,99	1,73
	5	1,54	3,00	2,59	2,19	1,88	1,68
Rata-rata		1,60	3,01	2,65	2,36	2,08	1,79
F3	1	1,64	3,07	2,75	2,47	2	1,66
	2	1,48	2,99	2,5	2	1,87	1,51
	3	1,68	3,21	2,81	2,50	2,15	1,73
	4	1,47	2,83	2,54	2,15	1,79	1,51
	5	1,56	3,12	2,60	2,26	1,93	1,60
Rata-rata		1,56	3,02	2,64	2,27	1,94	1,60

Lampiran 8. Hasil Perhitungan Persentase Edema dan Penghambatan Persentase

Edema

$$(\%) = \frac{V_t - V_0}{V_0} \times 100\%$$

Keterangan:

V_t: Volume kaki mencit pada waktu

V₀: Volume awal kaki mencit

Kontrol Negatif

Mencit 1

$$30 = \frac{2,90 - 1,52}{1,52} \times 100\%$$

$$= 90,78\%$$

$$60 = \frac{2,89 - 1,52}{1,52} \times 100\%$$

$$= 90,13\%$$

$$90 = \frac{2,97 - 1,52}{1,52} \times 100\%$$

$$= 95,39\%$$

$$120 = \frac{2,99 - 1,52}{1,52} \times 100\%$$

$$= 96,71\%$$

Mencit 2

$$30 = \frac{2,95 - 1,49}{1,49} \times 100\%$$

$$= 97,98\%$$

$$60 = \frac{2,95 - 1,49}{1,49} \times 100\%$$

$$= 97,98\%$$

$$90 = \frac{2,87 - 1,49}{1,49} \times 100\%$$

$$= 92,61\%$$

$$120 = \frac{2,91 - 1,49}{1,49} \times 100\%$$

$$= 95,30\%$$

Mencit 3

$$30 = \frac{3,03-1,53}{1,53} \times 100\%$$

$$= 98,03\%$$

$$60 = \frac{2,95-1,53}{1,53} \times 100\%$$

$$= 92,81\%$$

$$90 = \frac{2,93-1,53}{1,53} \times 100\%$$

$$= 91,50\%$$

$$120 = \frac{2,97-1,53}{1,53} \times 100\%$$

$$= 94,11\%$$

Mencit 4

$$30 = \frac{2,80-1,45}{1,45} \times 100\%$$

$$= 93,10\%$$

$$60 = \frac{2,78-1,45}{1,45} \times 100\%$$

$$= 91,72\%$$

$$90 = \frac{2,83-1,45}{1,45} \times 100\%$$

$$= 95,17\%$$

$$120 = \frac{2,83-1,45}{1,45} \times 100\%$$

$$= 95,17\%$$

Mencit 5

$$30 = \frac{2,94-1,51}{1,51} \times 100\%$$

$$= 97,70\%$$

$$60 = \frac{2,90-1,51}{1,51} \times 100\%$$

$$= 92,05\%$$

$$90 = \frac{2,92-1,51}{1,51} \times 100\%$$

$$= 93,37\%$$

$$\begin{aligned}
 120 &= \frac{2,96-1,51}{1,51} \times 100\% \\
 &= 96,02\%
 \end{aligned}$$

Kontrol Positif

Mencit 1

$$\begin{aligned}
 30 &= \frac{2,63-1,67}{1,67} \times 100\% \\
 &= 57,48\%
 \end{aligned}$$

$$\begin{aligned}
 60 &= \frac{2,30-1,67}{1,67} \times 100\% \\
 &= 31,73\%
 \end{aligned}$$

$$\begin{aligned}
 90 &= \frac{1,90-1,67}{1,67} \times 100\% \\
 &= 13,77\%
 \end{aligned}$$

$$\begin{aligned}
 120 &= \frac{1,69-1,67}{1,67} \times 100\% \\
 &= 1,19\%
 \end{aligned}$$

Mencit 2

$$\begin{aligned}
 30 &= \frac{2,33-1,52}{1,52} \times 100\% \\
 &= 53,28\%
 \end{aligned}$$

$$\begin{aligned}
 60 &= \frac{2,01-1,52}{1,52} \times 100\% \\
 &= 32,23\%
 \end{aligned}$$

$$\begin{aligned}
 90 &= \frac{1,86-1,52}{1,52} \times 100\% \\
 &= 23,68\%
 \end{aligned}$$

$$\begin{aligned}
 120 &= \frac{1,54-1,52}{1,52} \times 100\% \\
 &= 1,31\%
 \end{aligned}$$

Mencit 3

$$30 = \frac{2,60-1,65}{1,65} \times 100\%$$

$$= 57,57\%$$

$$60 = \frac{2,16-1,65}{1,65} \times 100\%$$

$$= 30,90\%$$

$$90 = \frac{1,88-1,65}{1,65} \times 100\%$$

$$= 13,93\%$$

$$120 = \frac{1,67-1,65}{1,65} \times 100\%$$

$$= 1,21\%$$

Mencit 4

$$30 = \frac{2,65-1,65}{1,65} \times 100\%$$

$$= 60,60\%$$

$$60 = \frac{2,23-1,65}{1,65} \times 100\%$$

$$= 35,15\%$$

$$90 = \frac{1,87-1,65}{1,65} \times 100\%$$

$$= 13,33\%$$

$$120 = \frac{1,67-1,65}{1,65} \times 100\%$$

$$= 1,21\%$$

Mencit 5

$$30 = \frac{2,35-1,50}{1,50} \times 100\%$$

$$= 56\%$$

$$60 = \frac{1,98-1,50}{1,50} \times 100\%$$

$$= 32\%$$

$$90 = \frac{1,70-1,50}{1,50} \times 100\%$$

$$= 13,33\%$$

$$120 = \frac{1,51-1,50}{1,50} \times 100\%$$

$$= 0,66\%$$

F1 (300 mg)

Mencit 1

$$30 = \frac{2,82-1,63}{1,63} \times 100\%$$

$$= 70,00\%$$

$$60 = \frac{2,61-1,63}{1,63} \times 100\%$$

$$= 60,12\%$$

$$90 = \frac{2,24-1,63}{1,63} \times 100\%$$

$$= 37,42\%$$

$$120 = \frac{1,80-1,63}{1,63} \times 100\%$$

$$= 10,42\%$$

Mencit 2

$$30 = \frac{2,54-1,51}{1,51} \times 100\%$$

$$= 66,88\%$$

$$60 = \frac{2,19-1,51}{1,51} \times 100\%$$

$$= 45,03\%$$

$$90 = \frac{1,93-1,51}{1,51} \times 100\%$$

$$= 27,81\%$$

$$120 = \frac{1,74-1,51}{1,51} \times 100\%$$

$$= 15,23\%$$

Mencit 3

$$30 = \frac{2,76-1,55}{1,55} \times 100\%$$

$$= 78,06\%$$

$$60 = \frac{2,30-1,55}{1,55} \times 100\%$$

$$= 48,38\%$$

$$90 = \frac{2,03-1,55}{1,55} \times 100\%$$

$$= 30,96\%$$

$$120 = \frac{1,72-1,55}{1,55} \times 100\%$$

$$= 10,96\%$$

Mencit 4

$$30 = \frac{2,51-1,46}{1,46} \times 100\%$$

$$= 71,91\%$$

$$60 = \frac{2,20-1,46}{1,46} \times 100\%$$

$$= 50,68\%$$

$$90 = \frac{1,97-1,46}{1,46} \times 100\%$$

$$= 34,93\%$$

$$120 = \frac{1,60-1,46}{1,46} \times 100\%$$

$$= 9,58\%$$

Mencit 5

$$30 = \frac{2,83-1,59}{1,59} \times 100\%$$

$$= 77,97\%$$

$$60 = \frac{2,47-1,59}{1,59} \times 100\%$$

$$= 55,34\%$$

$$90 = \frac{2,12-1,59}{1,59} \times 100\%$$

$$= 33,33\%$$

$$120 = \frac{1,86-1,59}{1,59} \times 100\%$$

$$= 16,98\%$$

F2 (400 mg)

Mencit 1

$$30 = \frac{2,61-1,56}{1,56} \times 100\%$$

$$= 67,30\%$$

$$60 = \frac{2,36-1,56}{1,56} \times 100\%$$

$$= 51,28\%$$

$$90 = \frac{2,16-1,56}{1,56} \times 100\%$$

$$= 38,46\%$$

$$120 = \frac{1,86-1,56}{1,56} \times 100\%$$

$$= 19,23\%$$

Mencit 2

$$30 = \frac{2,62-1,60}{1,60} \times 100\%$$

$$= 63,75\%$$

$$60 = \frac{2,39-1,60}{1,60} \times 100\%$$

$$= 49,37\%$$

$$90 = \frac{2,14-1,60}{1,60} \times 100\%$$

$$= 33,75\%$$

$$120 = \frac{1,89-1,60}{1,60} \times 100\%$$

$$= 18,12\%$$

Mencit 3

$$30 = \frac{2,94-1,76}{1,76} \times 100\%$$

$$= 67,04\%$$

$$60 = \frac{2,70-1,76}{1,76} \times 100\%$$

$$= 53,40\%$$

$$90 = \frac{2,34-1,76}{1,76} \times 100\%$$

$$= 32,95\%$$

$$120 = \frac{1,91-1,76}{1,76} \times 100\%$$

$$= 8,52\%$$

Mencit 4

$$30 = \frac{2,63-1,55}{1,55} \times 100\%$$

$$= 69,67\%$$

$$60 = \frac{2,28-1,55}{1,55} \times 100\%$$

$$= 47,09\%$$

$$90 = \frac{1,99-1,55}{1,55} \times 100\%$$

$$= 28,38\%$$

$$120 = \frac{1,73-1,55}{1,55} \times 100\%$$

$$= 11,61\%$$

Mencit 5

$$30 = \frac{2,57-1,54}{1,54} \times 100\%$$

$$= 66,88\%$$

$$60 = \frac{2,12-1,54}{1,54} \times 100\%$$

$$= 37,66\%$$

$$90 = \frac{1,81-1,54}{1,54} \times 100\%$$

$$= 17,53\%$$

$$120 = \frac{1,68-1,54}{1,54} \times 100\%$$

$$= 9,09\%$$

F3 (500 mg)

Mencit 1

$$30 = \frac{2,75-1,64}{1,64} \times 100\%$$

$$= 67,68\%$$

$$60 = \frac{2,47-1,64}{1,64} \times 100\%$$

$$= 50,60\%$$

$$90 = \frac{2-1,64}{1,64} \times 100\%$$

$$= 21,95\%$$

$$120 = \frac{1,66-1,64}{1,64} \times 100\%$$

$$= 1,21\%$$

Mencit 2

$$30 = \frac{2,5-1,48}{1,48} \times 100\%$$

$$= 68,91\%$$

$$60 = \frac{2-1,48}{1,48} \times 100\%$$

$$= 35,13\%$$

$$90 = \frac{1,87-1,48}{1,48} \times 100\%$$

$$= 26,35\%$$

$$120 = \frac{1,51-1,48}{1,48} \times 100\%$$

$$= 2,02\%$$

Mencit 3

$$30 = \frac{2,81-1,68}{1,68} \times 100\%$$

$$= 67,26\%$$

$$60 = \frac{2,50-1,68}{1,68} \times 100\%$$

$$= 48,80\%$$

$$90 = \frac{2,15-1,68}{1,68} \times 100\%$$

$$= 27,97\%$$

$$120 = \frac{1,73-1,68}{1,68} \times 100\%$$

$$= 2,97\%$$

Mencit 4

$$30 = \frac{2,54-1,47}{1,47} \times 100\%$$

$$= 72,78\%$$

$$60 = \frac{2,15-1,47}{1,47} \times 100\%$$

$$= 46,25\%$$

$$90 = \frac{1,79-1,47}{1,47} \times 100\%$$

$$= 21,76\%$$

$$120 = \frac{1,51-1,47}{1,47} \times 100\%$$

$$= 2,72\%$$

Mencit 5

$$30 = \frac{2,60-1,56}{1,56} \times 100\%$$

$$= 66,66\%$$

$$60 = \frac{2,26-1,56}{1,56} \times 100\%$$

$$= 44,87\%$$

$$90 = \frac{1,93-1,56}{1,56} \times 100\%$$

$$= 23,71\%$$

$$120 = \frac{1,60-1,56}{1,56} \times 100\%$$

$$= 2,56\%$$

Rata-rata persentase edema

Kontrol Negatif

$$\text{Mencit 1} = \frac{90,78+90,13+95,39+96,71}{4} = 93,25\%$$

$$\text{Mencit 2} = \frac{97,98+2,95+92,61+95,30}{4} = 95,96\%$$

$$\text{Mencit 3} = \frac{98,03+92,81+91,50+94,11}{4} = 94,15\%$$

$$\text{Mencit 4} = \frac{93,10+91,72+95,17+95,17}{4} = 93,78\%$$

$$\text{Mencit 5} = \frac{97,70+92,05+93,37+96,02}{4} = 94,78\%$$

Kontrol Positif

$$\text{Mencit 1} = \frac{57,48+31,73+13,77+1,19}{4} = 26,04\%$$

$$\text{Mencit 2} = \frac{53,28+32,23+23,68+1,31}{4} = 27,62\%$$

$$\text{Mencit 3} = \frac{57,57+30,90+13,93+1,21}{4} = 25,90\%$$

$$\text{Mencit 4} = \frac{60,60+35,15+13,33+1,21}{4} = 27,57\%$$

$$\text{Mencit 5} = \frac{56+32+13,33+0,66}{4} = 25,49\%$$

F1

$$\text{Mencit 1} = \frac{70,00+60,12+37,42+10,42}{4} = 44,49\%$$

$$\text{Mencit 2} = \frac{66,88+45,03+27,81+15,23}{4} = 38,73\%$$

$$\text{Mencit 3} = \frac{78,06+48,38+30,96+10,96}{4} = 42,23\%$$

$$\text{Mencit 4} = \frac{71,91+50,68+34,93+9,58}{4} = 41,77\%$$

$$\text{Mencit 5} = \frac{77,98+55,34+33,33+16,98}{4} = 45,90\%$$

F2

$$\text{Mencit 1} = \frac{67,30+51,28+38,46+19,23}{4} = 44,06\%$$

$$\text{Mencit 2} = \frac{63,75+49,37+33,75+18,12}{4} = 41,24\%$$

$$\text{Mencit 3} = \frac{67,04+53,40+32,95+8,52}{4} = 40,47\%$$

$$\text{Mencit 4} = \frac{69,67+47,09+28,38+11,61}{4} = 39,18\%$$

$$\text{Mencit 5} = \frac{66,88+37,66+17,53+9,09}{4} = 32,79\%$$

F3

$$\text{Mencit 1} = \frac{67,68+50,60+21,95+1,21}{4} = 35,36\%$$

$$\text{Mencit 2} = \frac{68,91+35,13+26,35+2,02}{4} = 33,10\%$$

$$\text{Mencit 3} = \frac{67,26+48,80+27,97+2,97}{4} = 36,75\%$$

$$\text{Mencit 4} = \frac{72,78+46,25+21,76+2,72}{4} = 35,87\%$$

$$\text{Mencit 5} = \frac{66,66+44,87+23,71+2,56}{4} = 34,45\%$$

$$\text{Persentase Penghambatan Edema (\%)} = \frac{a-b}{a} \times 100\%$$

Keterangan:

- a. Persen edema rata-rata kontrol negatif
- b. Persen edema rata-rata kelompok yang mendapatkan bahan uji

Kontrol Positif

$$\begin{aligned}\text{Mencit 1} &= \frac{93,25-26,04}{93,25} \times 100\% \\ &= 72,07\%\end{aligned}$$

$$\begin{aligned}\text{Mencit 2} &= \frac{95,96-27,62}{95,96} \times 100\% \\ &= 71,21\%\end{aligned}$$

$$\begin{aligned}\text{Mencit 3} &= \frac{94,15-25,90}{94,15} \times 100\% \\ &= 72,49\%\end{aligned}$$

$$\begin{aligned}\text{Mencit 4} &= \frac{93,79-27,25}{93,79} \times 100\% \\ &= 70,60\%\end{aligned}$$

$$\begin{aligned}\text{Mencit 5} &= \frac{94,78-25,49}{94,78} \times 100\% \\ &= 73,10\%\end{aligned}$$

F1

$$\begin{aligned}\text{Mencit 1} &= \frac{93,25-44,49}{93,25} \times 100\% \\ &= 52,28\%\end{aligned}$$

$$\begin{aligned}\text{Mencit 2} &= \frac{95,96-38,73}{95,96} \times 100\% \\ &= 59,63\%\end{aligned}$$

$$\begin{aligned}\text{Mencit 3} &= \frac{94,15-42,23}{94,15} \times 100\% \\ &= 55,14\%\end{aligned}$$

$$\begin{aligned}\text{Mencit 4} &= \frac{93,79-41,77}{93,79} \times 100\% \\ &= 55,46\%\end{aligned}$$

$$\begin{aligned}\text{Mencit 5} &= \frac{94,78-45,90}{94,78} \times 100\% \\ &= 51,57\%\end{aligned}$$

F2

$$\begin{aligned}\text{Mencit 1} &= \frac{93,25-44,06}{93,25} \times 100\% \\ &= 52,75\%\end{aligned}$$

$$\begin{aligned}\text{Mencit 2} &= \frac{95,96-41,24}{95,96} \times 100\% \\ &= 57,02\%\end{aligned}$$

$$\begin{aligned}\text{Mencit 3} &= \frac{94,15-40,47}{94,15} \times 100\% \\ &= 57,01\%\end{aligned}$$

$$\begin{aligned}\text{Mencit 4} &= \frac{93,79-39,18}{93,79} \times 100\% \\ &= 58,22\%\end{aligned}$$

$$\begin{aligned}\text{Mencit 5} &= \frac{94,78-32,79}{94,78} \times 100\% \\ &= 65,40\%\end{aligned}$$

F3

$$\begin{aligned}\text{Mencit 1} &= \frac{93,25-35,36}{93,25} \times 100\% \\ &= 62,08\%\end{aligned}$$

$$\begin{aligned}\text{Mencit 2} &= \frac{95,96-33,10}{95,96} \times 100\% \\ &= 65,50\%\end{aligned}$$

$$\begin{aligned}\text{Mencit 3} &= \frac{94,15-36,75}{94,15} \times 100\% \\ &= 60,96\%\end{aligned}$$

$$\begin{aligned}\text{Mencit 4} &= \frac{93,79-35,87}{93,79} \times 100\% \\ &= 61,75\%\end{aligned}$$

$$\text{Mencit 5} = \frac{94,78-34,45}{94,78} \times 100\%$$

$$= 63,65\%$$

Lampiran 9. Tabel Hasil Perhitungan % Edema

Hewan coba	Kontrol Negatif (Basis)	Kontrol Positif (Flamar®)	Konsentrasi 300 mg	Konsentrasi 400 mg	Konsentrasi 500 mg
1	93,25%	26,04%	44,49%	44,06%	35,36%
2	95,96%	27,62%	38,73%	41,24%	33,10%
3	94,15%	25,90%	42,23%	40,47%	36,75%
4	93,79%	27,57%	41,47%	39,18%	35,87%
5	94,78%	25,49%	45,90%	32,79%	34,45%
Rata-rata	94,38%	26,52%	45,56%	39,54%	35,10%

Lampiran 10. Tabel Hasil Perhitungan % Penghambatan Edema

Hewan coba	Kontrol Positif (Flamar®)	Konsentrasi 300 mg	Konsentrasi 400 mg	Konsentrasi 500 mg	P value <0,05
1	72,07%	52,28%	52,75%	62,08%	<,000
2	71,21%	59,63%	57,02%	65,50%	
3	72,49%	55,14%	57,01%	60,96%	
4	70,60%	55,46%	58,22%	61,75%	
5	73,10%	51,57%	65,40%	63,65%	

Lampiran 11. Uji Homogenitas**Tests of Homogeneity of Variances**

		Levene Statistic	df1	df2	Sig.
%	Based on Mean	1,300	3	16	,309
PENGHAMBA	Based on Median	,876	3	16	,474
TAN EDEMA	Based on Median and with adjusted df	,876	3	7,793	,494
MENCIT	Based on trimmed mean	1,278	3	16	,316

Lampiran 12. Uji Normalitas

Tests of Normality

		Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	KONSENTRASI	Statistic	df	Sig.	Statistic	df	Sig.
%	Kontrol positif	,170	5	,200*	,975	5	,906
PENGHAMBATAN	Konsentrasi 300 mg	,220	5	,200*	,922	5	,546
EDEMA MENCIT	Konsentrasi 400 mg	,288	5	,200*	,898	5	,399
	Konsentrasi 500 mg	,253	5	,200*	,928	5	,584

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Lampiran 13. Hasil ANOVA

% PENGHAMBATAN EDEMA MENCIT

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	16150,936	4	4037,734	568,924	<,000
Within Groups	141,943	20	7,097		
Total	16292,879	24			

Lampiran 14. Uji Tukey

% PENGHAMBATAN EDEMA MENCIT

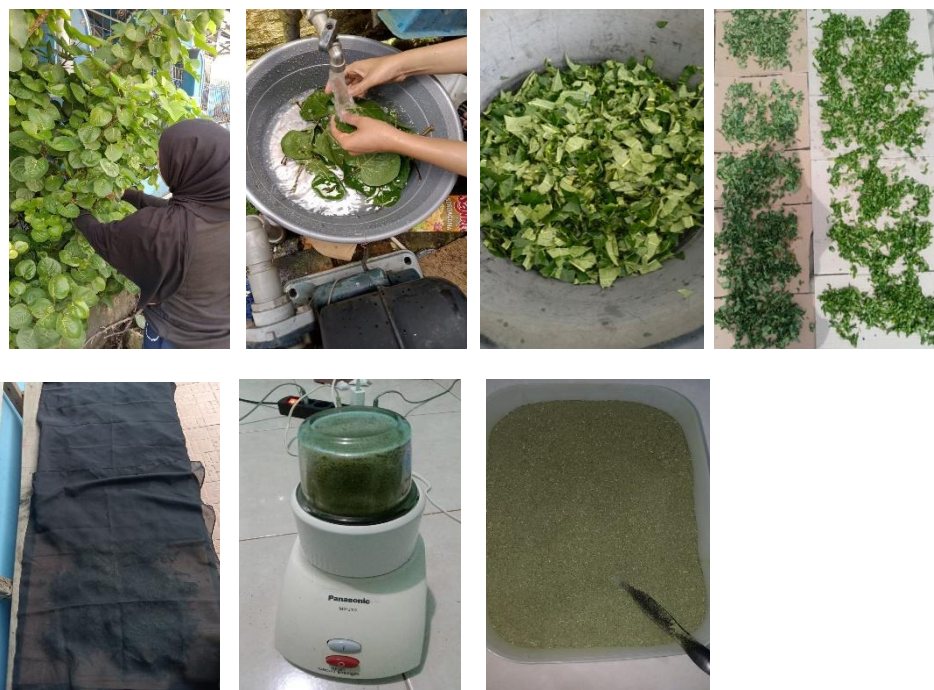
Tukey HSD^a

		Subset for alpha = 0.05		
KONSENTRASI	N	1	2	3
Konsentrasi 300 mg	5	54,8160		
Konsentrasi 400 mg	5	58,0800	58,0800	
Konsentrasi 500 mg	5		62,7880	
Kontrol positif	5			71,8940
Sig.		,340	,098	1,000

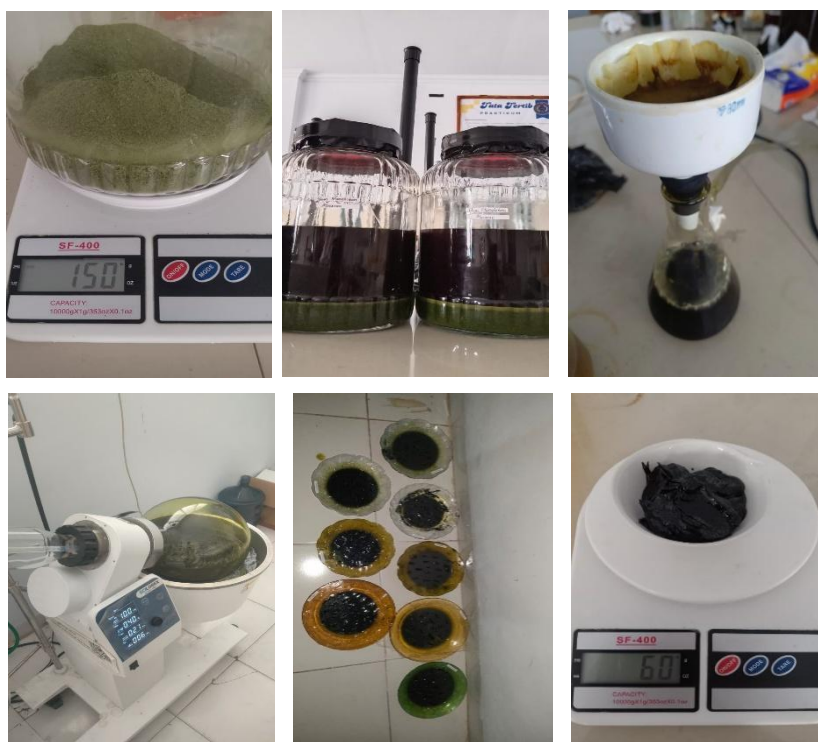
Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 5,000.

Lampiran 15. Dokumentasi Preparasi Sampel Daun Mangkokan



Lampiran 16. Dokumentasi Maserasi Sampel



Lampiran 17. Standarisasi Simplisia Daun Mangkogan

Uji Kadar Air	Susut Pengeringan
 Berat sampel simplisia	 Berat cawan porselin kosong
 Berat cawan+simplisia sebelum di oven	 Berat cawan+simplisia sebelum di oven
 Berat cawan+simplisia sesudah di oven	 Berat cawan+ simplisia sesudah di oven

Lampiran 18. Dokumentasi Skrining Fitokimia

a. Flavonoid



b. Alkaloid

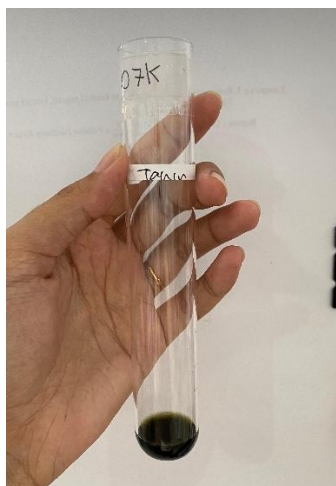
1) Perekasi Mayer

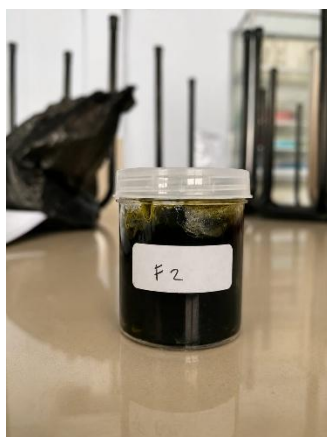


2) Perekasi dragendroft



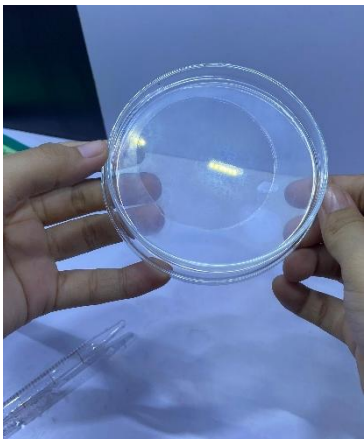
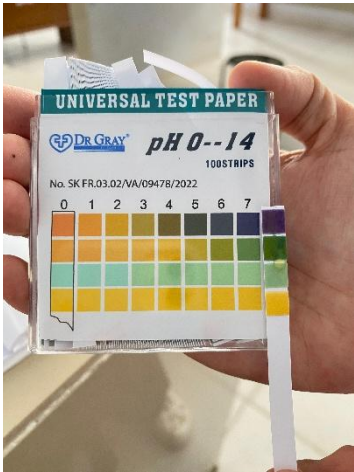
c. Tanin

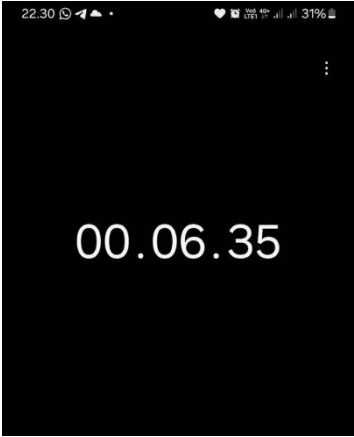


d. Saponin**e. Steroid****Lampiran 19. Dokumentasi Sediaan Gel**



Lampiran 20. Dokumentasi Uji Stabilitas Fisik

Uji	Gambar
Uji Homogen	
Uji pH	

Uji daya sebar	
Uji daya lekat	
Uji viskositas	

Lampiran 21. Dokumentasi Uji Antiinflamasi Pada Mencit

Pengukuran volume kaki mencit sebelum di induksi dicarat sebagai (V0) 	Induksi karagenan pada kaki mencit 
Pemberian sediaan gel pada kaki mencit setelah di induksi 	Pengukuran volume kaki mencit setelah pemberian sediaan gel di dicatat sebagai (Vt) 
Alat yang digunakan untuk mengukur volume kaki mencit yaitu alat jangka sorong digital 	

Lampiran 22. Kode Etik

Lembaga Penelitian dan Pengabdian kepada Masyarakat
Universitas Muhammadiyah Palopo
Institution of Research and Community Services
Muhammadiyah University Palopo

KETERANGAN LAYAK PENELITIAN
ETHICAL APPROVAL LETTER
 Nomor/Number: 251/KEP/III.3.AU/F/2026

Komisi Etik Penelitian Universitas Muhammadiyah Palopo, setelah mempelajari dan melakukan kajian etik secara seksama usulan rancangan penelitian, dengan ini menyatakan bahwa penelitian dengan:

The Research Ethics Commission of Muhammadiyah University Palopo, having thoroughly scrutinized and completed ethical reviews on the research plan proposal, hereby certifies that:

Judul : Efektivitas Gel Anti Inflamasi Ekstrak Daun Mangkoka (*Nothopanax Scutellarium*) Terhadap Mencit (Mus Musculuc) Yang Diinduksi Karagenan

Title : The Effectiveness of Anti-Inflammatory Gel of Mangkoka Leaf Extract (*Nothopanax Scutellarium*) on Mice (*Mus musculuc*) Induced by Carrageenan

Researcher : 1. Citra Amelia
 2. Apt. Hurria, S.Farm., M.Sc
 3. Bd. Andi Sitti Umrah, S.ST., M.Keb

Dengan ini menyatakan bahwa protokol tersebut DITERIMA
 Hereby declares that the protocol is APPROVED

Palopo, 20 Mei 2026
 Ketua / Chairman


 Junaidi, S.E., M.Ak., Ph.D.
 NIDN.0910067705

Citra Amelia

(1) Naskah CITRA AMELIA

-  Farmasi
-  Fak. Ilmu Kesehatan
-  LLDIKTI IX Turnitin Consortium Part.III

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