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LAMPIRAN

Lampiran 1. Laporan Asupan Diet Normal pada Tikus

No.	Kelompok Perlakuan	Tikus Percobaan	Asupan	Rata-rata	Persentase
1.	Kelompok kontrol	Tikus 1	29.9	29,81	99,38%
		Tikus 2	29.8		
		Tikus 3	29.8		
		Tikus 4	29.6		
		Tikus 5	29.9		
		Tikus 6	29.9		
2.	Kelompok 1	Tikus 1	29.5	29,36	98,11%
		Tikus 2	29.3		
		Tikus 3	29.4		
		Tikus 4	29.4		
		Tikus 5	29.3		
		Tikus 6	29.3		
3.	Kelompok 2	Tikus 1	29.5	29,43	98.11%
		Tikus 2	29.4		
		Tikus 3	29.5		
		Tikus 4	29.3		
		Tikus 5	29.5		
		Tikus 6	29.4		
4.	Kelompok 3	Tikus 1	29.5	29,46	98,20%
		Tikus 2	29.4		
		Tikus 3	29.6		
		Tikus 4	29.4		
		Tikus 5	29.5		
		Tikus 6	29.4		

Lampiran 2. Laporan Hasil Pemeriksaan Kadar Gula Darah 2JPP setelah Induksi Aloksan

No.	Kelompok Perlakuan	Tikus Percobaan	KGD 2JPP (mg/dL)
1.	Kelompok kontrol	Tikus 1	225
		Tikus 2	213
		Tikus 3	282
		Tikus 4	201
		Tikus 5	198
		Tikus 6	220
2.	Kelompok 1	Tikus 1	255
		Tikus 2	209
		Tikus 3	198
		Tikus 4	208
		Tikus 5	199
		Tikus 6	207
3.	Kelompok 2	Tikus 1	202
		Tikus 2	195
		Tikus 3	208
		Tikus 4	194
		Tikus 5	197
		Tikus 6	235
4.	Kelompok 3	Tikus 1	269
		Tikus 2	256
		Tikus 3	227
		Tikus 4	196
		Tikus 5	199
		Tikus 6	205

Lampiran 3. Hasil Lab Kadar SOD

SOD Assay 07/23/2025 12:10 PM

Title	SOD assay Kit
Protocol	Super oxide dismutase assay kit, MedikBio
Date/Time	07/23/2025 12:07:01 PM
Consultant	Dr. Saturnan, S.Si., M.Kes
Plate ID	
Unit	U/mL
Reader Setup	560 nm Endpoint Mix off Temp **.* Reader Info iMark 21225 1.04.02.E Build 00 Comments

Using Standard Data Set from Current Experiment. Linear Fit: Y=slope*X+intercept
20/50/80%: X = 55.209/ 28.655 / 96.021 Y = 0.000 / 0.289 / 0.156
intercept: 0.062 (+/-0.013), slope: 0.000 (+/-0.001) chi2=0.000, RMS=0.208, r^2=0.964

Standards Report:

Std #	Conc (U/mL)	Well	Replicates	Mean	SD	%CV
1	4	A1	0,184	0,184	(*)	(*)
2	2	B1	0,995	0,995	(*)	(*)
3	1	C1	1,239	1,239	(*)	(*)
4	0,5	D1	1,56	1,56	(*)	(*)
5	0,25	E1	1,887	1,887	(*)	(*)
6	0,125	F1	1,904	1,904	(*)	(*)
7	0,063	D1	2,137	2,137	(*)	(*)
8	0	H1	0,012	0,012	(*)	(*)

Sample Report:

Sample ID	Well	Replicates	Mean	Conc (U/mL)	SD (Conc)
KP.1	A2	0,516	0,516	3,072	(*)
KP.2	B2	0,561	0,561	2,974	(*)
KP.3	C2	0,638	0,638	2,806	(*)
KP.4	D2	0,483	0,483	3,143	(*)
KP.5	E2	0,676	0,676	2,722	(*)
KP.6	F2	0,647	0,647	2,786	(*)
P1.1	G2	0,485	0,485	3,141	(*)
P1.2	H2	0,479	0,479	3,152	(*)
P1.3	A3	0,484	0,484	3,142	(*)
P1.4	B3	0,466	0,466	3,182	(*)
P1.5	C3	0,463	0,463	3,188	(*)
P1.6	D3	0,457	0,457	3,201	(*)
P2.1	E3	0,453	0,453	3,209	(*)
P2.2	F3	0,454	0,454	3,208	(*)
P2.3	G3	0,450	0,450	3,215	(*)
P2.4	H3	0,455	0,455	3,205	(*)
P2.5	A4	0,436	0,436	3,248	(*)
P2.6	B4	0,445	0,445	3,226	(*)
P3.1	C4	0,343	0,343	3,449	(*)
P3.2	D4	0,228	0,228	3,701	(*)
P3.3	E4	0,303	0,303	3,538	(*)
P3.4	F4	0,417	0,417	3,287	(*)
P3.5	G4	0,312	0,312	3,517	(*)
P3.6	H4	0,212	0,212	3,736	(*)

Lampiran 4. Laporan Hasil Pemeriksaan Kadar SOD

No.	Kelompok Perlakuan	Tikus Percobaan	Kadar SOD (U/mL)
1.	Kelompok kontrol	Tikus 1	3.072
		Tikus 2	2.974
		Tikus 3	2.806
		Tikus 4	3.143
		Tikus 5	2.722
		Tikus 6	2.786
2.	Kelompok 1	Tikus 1	3.141
		Tikus 2	3.152
		Tikus 3	3.142
		Tikus 4	3.182
		Tikus 5	3.188
		Tikus 6	3.201
3.	Kelompok 2	Tikus 1	3.209
		Tikus 2	3.208
		Tikus 3	3.215
		Tikus 4	3.205
		Tikus 5	3.248
		Tikus 6	3.226
4.	Kelompok 3	Tikus 1	3.449
		Tikus 2	3.701
		Tikus 3	3.538
		Tikus 4	3.287
		Tikus 5	3.517
		Tikus 6	3.736

Lampiran 5. Pengolahan Data

a. Rata-rata asupan diet normal tikus

	N	Mean	Std. Deviation
Kontrol	6	29.817	.1169
P1	6	29.367	.0816
P2	6	29.433	.0816
P3	6	29.467	.0816
Total	24	29.521	.1978

b. Rata-rata KGD 2JPP tikus

	N	Mean	Std. Deviation
Kontrol	6	223.17	30.669
P1	6	212.67	21.267
P2	6	205.17	15.510
P3	6	225.33	31.040
Total	24	216.58	25.176

c. Rata-rata kadar SOD

	N	Mean	Std. Deviation
Kontrol	6	2.91717	.170796
P1	6	3.16767	.025866
P2	6	3.21850	.016257
P3	6	3.53800	.165612
Total	24	3.21033	.251850

Lampiran 6. Uji Statistik

a. Uji beda asupan diet normal antar kelompok (T-Independent Test)

1. Kelompok kontrol dan perlakuan 1

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
Asupan diet normal	Equal variances assumed	.250	.628	7.730	10	.000	.4500	.0582	.3203	.5797
	Equal variances not assumed			7.730	8.940	.000	.4500	.0582	.3182	.5818

2. Kelompok kontrol dan perlakuan 2

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
Asupan diet normal	Equal variances assumed	.250	.628	6.585	10	.000	.3833	.0582	.2536	.5130
	Equal variances not assumed			6.585	8.940	.000	.3833	.0582	.2515	.5152

3. Kelompok kontrol dan perlakuan 3

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
Asupan diet normal	Equal variances assumed	.250	.628	6.012	10	.000	.3500	.0582	.2203	.4797
	Equal variances not assumed			6.012	8.940	.000	.3500	.0582	.2182	.4818

4. Perlakuan 1 dan perlakuan 2

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
Asupan diet normal	Equal variances assumed	.000	1.000	-1.414	10	.188	-.0667	.0471	-.1717	.0384
	Equal variances not assumed			-1.414	10.000	.188	-.0667	.0471	-.1717	.0384

5. Perlakuan 1 dan perlakuan 3

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
Asupan diet normal	Equal variances assumed	.000	1.000	-2.121	10	.060	-.1000	.0471	-.2050	.0050
	Equal variances not assumed			-2.121	10.000	.060	-.1000	.0471	-.2050	.0050

6. Perlakuan 2 dan perlakuan 3

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
Asupan diet normal	Equal variances assumed	.000	1.000	-.707	10	.496	-.0333	.0471	-.1384	.0717
	Equal variances not assumed			-.707	10.000	.496	-.0333	.0471	-.1384	.0717

b. Uji beda KGD 2JPP setelah Induksi Aloksan (T-Independent Test)

1. Kelompok kontrol dan perlakuan 1

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
Rata-rata KGD 2JPP	Equal variances assumed	.338	.574	.689	10	.506	10.500	15.236	-23.448	44.448
	Equal variances not assumed			.689	8.905	.508	10.500	15.236	-24.022	45.022

2. Kelompok kontrol dan perlakuan 2

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
Rata-rata KGD 2JPP	Equal variances assumed	.954	.352	1.283	10	.228	18.000	14.031	-13.262	49.262
	Equal variances not assumed			1.283	7.401	.238	18.000	14.031	-14.816	50.816

3. Kelompok kontrol dan perlakuan 3

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
Rata-rata KGD 2JPP	Equal variances assumed	.244	.632	-.122	10	.906	-2.167	17.814	-41.859	37.525
	Equal variances not assumed			-.122	9.999	.906	-2.167	17.814	-41.860	37.526

4. Perlakuan 1 dan perlakuan 2

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
Rata-rata KGD 2JPP	Equal variances assumed	.200	.664	.698	10	.501	7.500	10.746	-16.443	31.443
	Equal variances not assumed			.698	9.146	.503	7.500	10.746	-16.750	31.750

5. Perlakuan 1 dan perlakuan 3

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
Rata-rata KGD 2JPP	Equal variances assumed	1.858	.203	-.825	10	.429	-12.667	15.361	-46.893	21.559
	Equal variances not assumed			-.825	8.847	.431	-12.667	15.361	-47.507	22.174

6. Perlakuan 2 dan perlakuan 3

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
Rata-rata KGD 2JPP	Equal variances assumed	4.293	.065	-1.424	10	.185	-20.167	14.166	-51.730	11.397
	Equal variances not assumed			-1.424	7.350	.196	-20.167	14.166	-53.343	13.009

c. Kadar SOD (ANOVA)

ANOVA

SOD

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.171	3	.390	27.143	.000
Within Groups	.288	20	.014		
Total	1.459	23			

Multiple Comparisons

Dependent Variable: SOD

Tukey HSD

(I) Kelompok	(J) Kelompok	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Kontrol	P1	-.250500*	.069241	.009	-.44430	-.05670
	P2	-.301333*	.069241	.002	-.49513	-.10753
	P3	-.620833*	.069241	.000	-.81463	-.42703
P1	Kontrol	.250500*	.069241	.009	.05670	.44430
	P2	-.050833	.069241	.882	-.24463	.14297
	P3	-.370333*	.069241	.000	-.56413	-.17653
P2	Kontrol	.301333*	.069241	.002	.10753	.49513
	P1	.050833	.069241	.882	-.14297	.24463
	P3	-.319500*	.069241	.001	-.51330	-.12570
P3	Kontrol	.620833*	.069241	.000	.42703	.81463
	P1	.370333*	.069241	.000	.17653	.56413
	P2	.319500*	.069241	.001	.12570	.51330

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

SOD

Tukey HSD[a]

Kelompok	N	Subset for alpha = 0.05		
		1	2	3
Kontrol	6	2.91717		
P1	6		3.16767	
P2	6		3.21850	
P3	6			3.53800
Sig.		1.000	.882	1.000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 6.000.

Lampiran 7. Dokumentasi Pembuatan Minuman Mar'Ke Bilar

Penyortiran dan penimbangan bahan	 Kesemek 600 gr  Markisa 600 gr  Ubi ungu 600 gr
Pengukusan	
Pemblenderan	 Kesemek 437 gr  Markisa 294 gr  Ubi Ungu 511 gr
Penyaringan	  Kesemek 330 ml   Markisa 180 ml

	 Ubi ungu 330 ml
Pencampuran	 Hingga tercampur rata
`Hasil	 

Lampiran 8. Proses Penelitian

Aklimatisasi	
Induksi Aloksan	 
Pemberian minuman Mar'ke Bilar	   Formulasi 1 Formulasi 2 Formulasi 3

Pengambilan sampel darah pada hari ke-16	 
Pemeriksaan Kadar SOD	   

Lampiran 9. Ethical Clearance

Kementerian Kesehatan
Poltekkes Medan
Komisi Etik Penelitian Kesehatan
Jalan Jamin Ginting KM. 13,5
Medan, Sumatera Utara 20137
(061) 8368633
https://poltekkes-medan.ac.id

KETERANGAN LAYAK ETIK
DESCRIPTION OF ETHICAL EXEMPTION
"ETHICAL EXEMPTION"

No.01.26.1239/KEPK/POLTEKKES KEMENKES MEDAN 2025

Protokol penelitian versi 1 yang diusulkan oleh :
The research protocol proposed by

Peneliti utama : Aurell Frita Nukasih Sipahutar
Principal In Investigator

Nama Institusi : Poltekkes Kemenkes Medan
Name of the Institution

Dengan judul:
Title

"PENGARUH TREATMENT MINUMAN SARI MAR'KE BILAR (MARKISA UNGU, KESEMEK, UBI JALAR UNGU) TERHADAP KADAR SUPEROXIDE DISMUTASE (SOD) TIKUS WISTAR JANTAN DIABETES MELITUS"

"The Effect of Sari Mar'ke Bilar (Purple Passion Fruit, Persimmon, and Purple Sweet Potato) Treatment on Superoxide Dismutase (SOD) Levels in Male Wistar Rats with Diabetes Mellitus"

Dinyatakan layak etik sesuai 7 (tujuh) Standar WHO 2011, yaitu 1) Nilai Sosial, 2) Nilai Ilmiah, 3) Pemerataan Beban dan Manfaat, 4) Risiko, 5) Bujukan/Eksploitasi, 6) Kerahasiaan dan Privacy, dan 7) Persetujuan Setelah Penjelasan, yang merujuk pada Pedoman CIOMS 2016. Hal ini seperti yang ditunjukkan oleh terpenuhinya indikator setiap standar.

Declared to be ethically appropriate in accordance to 7 (seven) WHO 2011 Standards, 1) Social Values, 2) Scientific Values, 3) Equitable Assessment and Benefits, 4) Risks, 5) Persuasion/Exploitation, 6) Confidentiality and Privacy, and 7) Informed Concent, referring to the 2016 CIOMS Guidelines. This is as indicated by the fulfillment of the indicators of each standard.

Pernyataan Laik Etik ini berlaku selama kurun waktu tanggal 12 Juni 2025 sampai dengan tanggal 12 Juni 2026.

This declaration of ethics applies during the period June 12, 2025 until June 12, 2026.

June 12, 2025
Chairperson,

Dr. Lestari Rahmah, MKT

00296/EE/2025/0159231271

Lampiran 10. Surat Penelitian

Kementerian Kesehatan
Direktorat Jenderal
Sumber Daya Manusia Kesehatan
Poltekkes Medan
Jalan Jamin Ginting KM. 13,5
Medan, Sumatera Utara 20137
(061) 8368633
https://poltekkes-medan.ac.id

Lubuk Pakam, 23 Juli 2025

Nomor : KH.03.01/XIV.13/1359/2025
Lampiran : 1 (Satu)
Perihal : Ijin Penelitian

Kepada Yth:

1. Laboratorium Faal/Fisiologi Fakultas Kedokteran Universitas Brawijaya, Malang
2. Laboratorium Farmakologi In Vivo Fakultas Kedokteran Universitas Brawijaya, Malang

di_
Tempat

Sesuai dengan kurikulum Diploma Sarjana Terapan Gizi dan Dietetika Jurusan Gizi dimana mahasiswa diwajibkan menyusun Skripsi. Berkenaan dengan hal tersebut kami mohon izin bagi mahasiswa bimbingan Bapak Ginta Siahaan, DCN, M.Kes untuk melakukan Penelitian di Laboratorium Faal/Fisiologi Fakultas Kedokteran Universitas Brawijaya, Malang dan Laboratorium Farmakologi In Vivo Fakultas Kedokteran Universitas Brawijaya, Malang. Adapun nama mahasiswa tersebut, adalah:

No	Nama	NIM	Judul
1.	Aurell Frita Nukasih	P01031222070	Pengaruh *Treatment* Minuman Sari Mar'ke Bilar (Markisa Ungu, Kesemek, Ubi Jalar Ungu) Terhadap Kadar *Superoxide Dismutase* (SOD) Tikus Wistar Jantan Diabetes Melitus

Demikian kami sampaikan, atas perhatian dan kerjasamanya kami ucapkan terima kasih.

Ketua Jurusan,

Riris Oppusunggu, S. Pd. M. Kes

Kementerian Kesehatan tidak menerima suap dan/atau gratifikasi dalam bentuk apapun. Jika terdapat potensi suap atau gratifikasi silakan laporkan melalui HALO KEMENKES 1500567 dan https://wbs.kemkes.go.id. Untuk verifikasi keaslian tanda tangan elektronik, silakan unggah dokumen pada laman https://tte.kominfo.go.id/verifyPDF.

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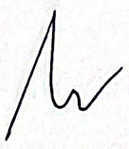
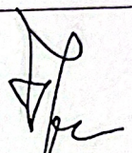
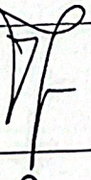
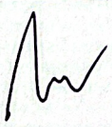
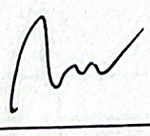
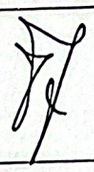
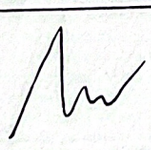
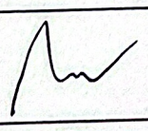
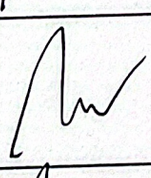
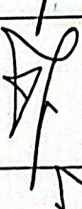
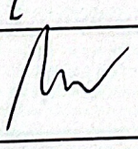
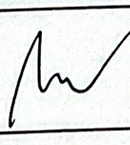
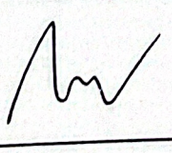
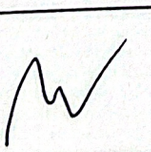
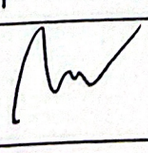
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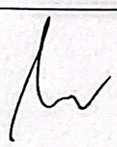
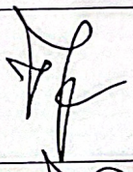
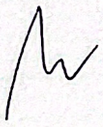
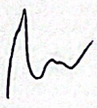
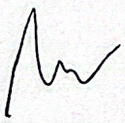
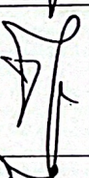
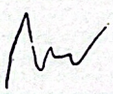
Nama : Aurell Frita Nukasih

NIM : P01031222070

Judul : Pengaruh *Treatment* Minuman Mar'ke Bilar (Markisa Ungu, Kesemek, Ubi Jalar Ungu) Terhadap Kadar *Superoxide Dismutase* (SOD) Tikus *Wistar* Jantan Diabetes Melitus

No.	Tanggal	Topik Bimbingan	T. Tangan Mahasiswa	T.Tangan Pembimbing
1	17 Februari 2025	Penyerahan surat permintaan sebagai dosen pembimbing		
2	18 Februari 2025	Perkenalan dan persiapan materi/judul penelitian		
3	25 Februari 2025	Mendiskusikan judul dan menetapkan judul		
4	26 Februari 2025	Mencari sumber-sumber jurnal atau penelitian yang berhubungan dengan judul		
5	10 Maret 2025	Mengajukan BAB I		
6	11 Maret 2025	Revisi BAB I		
7	20 Maret 2025	Mengajukan BAB II dan BAB III		
8	31 Maret 2025	Revisi BAB II dan BAB III		

9	10 April 2025	Revisi keseluruhan proposal sesuai dengan buku pedoman		
10	15 April 2025	Penandatanganan surat pernyataan persetujuan usulan proposal/skripsi		
11	17 April 2025	Ujian Proposal		
12	1 Mei 2025	Revisi Proposal dengan dosen pembimbing		
13	26 Juni 2025	ACC dari dosen pembimbing		
14	20 Juli 2025	Revisi proposal dengan Dosen Penguji I		
15	21 Juli 2025	ACC dari Dosen Penguji I		
16	22 Juli 2025	Revisi Proposal dengan Dosen Penguji II		
17	24 Juli 2025	ACC dari Dosen Penguji II		
18	19 Desember 2025	Menyusun BAB IV dan V		
19	29 Desember 2025	Bimbingan BAB IV dan V dengan pembimbing		
20	15 Desember 2025	ACC BAB IV dan V dari dosen pembimbing		
21	19 Januari 2026	Ujian Skripsi		

22	7 Juli 2026	ACC Revisi Skripsi dari Dosen Pembimbing		
23	9 Juli 2026	ACC Revisi Skripsi dari Dosen Penguji I		
24	15 Juli 2026	ACC Revisi Skripsi dari Dosen Penguji II		
25	25 Agustus 2026	ACC Abstrak dari Dosen Pembimbing		
26	28 Agustus 2026	Validasi Abstrak		
27	15 September 2026	ACC Turnitin dari Dosen Pembimbing		