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DAFTAR LAMPIRAN

Lampiran 1 Surat *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.01.26.3005/KEPK/POLTEKKES KEMENKES MEDAN 2026

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

Peneliti utama : Putra Dianto
Principal In Investigator

Nama Institusi : Poltekkes Kemenkes Medan
Name of the Institution

Dengan judul:
Title

"PERBEDAAN KEMAMPUAN AKTIVITAS ANTIMIKROBA BAKTERI ASAM LAKTAT DIISOLASI DARI TERITES"

"DIFFERENCES IN THE ANTIMICROBIAL ACTIVITY OF LACTIC ACID BACTERIA ISOLATED FROM TERITES"

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 Consent, 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 30 Juni 2026 sampai dengan tanggal 30 Juni 2027.

This declaration of ethics applies during the period June 30, 2026 until June 30, 2027.



June 30, 2026
Chairperson,



Dr. Lestari Rahmah, MKT

Lampiran 2 Surat Izin Penelitian Laboratorium Terpadu



Kementerian Kesehatan
Direktorat Jenderal
Sumber Daya Manusia Kesehatan
 Politeknik Kesehatan Medan
 Jalan Jamin Ginting KM. 13,5
 Medan, Sumatera Utara 20136
 (061) 8368633
<https://poltekkes-medan.ac.id>

Nomor : KH.02.04/F.XXII.12/ 43 /2026
 Perihal : Izin Penelitian

19 Januari 2026

Kepada Yth :
 Direktur Poltekkes Kemenkes Medan
 Di –
 Tempat

Dengan ini kami sampaikan, dalam rangka penulisan Karya Tulis Ilmiah untuk memenuhi persyaratan Ujian Akhir Program (UAP) Jurusan Teknologi Laboratorium Medis diperlukan penelitian.

Dalam hal ini kami mohon, kiranya Bapak / Ibu bersedia memberi kemudahan terhadap mahasiswa/i kami.

No	Nama	NIM	Judul Penelitian
1	Ruth Sevel Napitupulu	P07534023225	Uji Aktivitas Antimikroba Bakteri Asam Laktat (BAL) dari pangan tradisional khas batak toba Naniura dalam menghambat pertumbuhan bakteri
2	Rahmaini Syahputri Siregar	P07534023082	Uji Biofilm Bakteri Asam Laktat pada makanan fermentasi Naniura dan Trites
3	Putra Dianto	P07534023039	Perbedaan Kemampuan Aktivitas Antimikroba Bakteri Asam Laktat Diisolasi Dari Trites
4	Ainun Permata Sari	P07534023190	Uji Efektifitas Anti Jamur Pada Ekstrak Kulit Pisang Barangan (Musa acuminata Linn.) Dalam Menghambat Pertumbuhan Jamur Candida Albicans
5	Nadila Alfiona	P07534023121	Efektivitas ekstrak kulit jeruk nipis (Citrus aurantifolia) Sebagai antibakteri terhadap pertumbuhan Staphylococcus aureus
6	Evelyn gracia Br samosir	P07534023111	Efektifitas ekstrak kulit jeruk kalamansi (Citrus microcarpa) sebagai antibakteri terhadap pertumbuhan Staphylococcus aureus
7	Ayu Stevani Nainggolan	P07534023200	Uji Auto-Agregasi Bakteri Asam Laktat (BAL) Isolat dari Naniura dan Trites
8	Aulia Ananta Hsb	P07534023146	Uji Aktivitas antibakteri ekstrak etanol bawang putih terhadap bakteri Staphylococcus aureus
9	Jihan fadilah sari	P07534023026	Uji aktivitas antibakteri ekstrak etanol bawang putih terhadap bakteri Escherichia coli
10	Seila Oktarisa	P07534023227	Perbandingan Kadar Flavonoid Ekstrak Sirih Hijau Dan Sirih Merah Dengan Metode Spektrofotometri Uv-Vis
11	Erni Anisa Sembiring	P07534023109	Analisa kadar vitamin C pada kulit jeruk manis(Citrus sinensis)dengan metode spektrofotometri UV-Vis



Dokumen ini telah ditandatangani secara elektronik menggunakan sertifikat elektronik yang diterbitkan oleh Balai Besar Sertifikasi Elektronik (BSrE), Badan Siber dan Sandi Negara

Lampiran 3 Surat Bebas Laboratorium Terpadu



Kementerian Kesehatan
Poltekkes Medan

Unit Laboratorium Terpadu

Jalan Jamin Ginting KM. 13,5
Medan, Sumatra Utara 20137
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<https://poltekkes-medan.ac.id>

Surat Keterangan Bebas Laboratorium

No. YK.05.03/IV/21/2026

Kepala unit Laboratorium Terpadu Poltekkes Kemenkes Medan dengan ini menerangkan bahwa :

Nama : Putra Dianto
NIM/NIP/NIDN : P07534023039
Jurusan : TEKNOLOGI LABORATORIUM MEDIS
Instansi : POLITEKNIK KESEHATAN MEDAN

Benar yang namanya tersebut diatas telah menggunakan fasilitas Laboratorium Terpadu dan telah menyelesaikan tanggungan biaya fasilitas laboratorium dalam rangka melaksanakan penelitian karya tulis ilmiah dengan judul:

"Perbedaan Kemampuan Aktivitas Antimikroba Bakteri Asam Laktat Diisolasi Dari Trites"

Dibawah bimbingan/pengawasan :

Pembimbing : Febri Sembiring, S.Si, M.Si, M.Sc

Demikian surat keterangan ini dibuat, agar dapat digunakan semestinya.

Medan, 29 April 2026

Kepala Unit Laboratorium Terpadu

Wardati Humaira, SST, M. Kes
NIP. 198004302002122002

Lampiran 4 Kartu Bimbingan Karya Tulis Ilmiah

34

Lampiran 4 Kartu Bimbingan Karya Tulis Ilmiah



Kementerian Kesehatan
Direktorat Jenderal
Sumber Daya Manusia Kesehatan
 Politeknik Kesehatan Medan
 Jalan Jamin Ginting KM. 13,5
 Medan, Sumatera Utara 20136
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PRODI D-III JURUSAN TEKNOLOGI LABORATORIUM MEDIS POLTEKKES KEMENKES MEDAN

KARTU BIMBINGAN KARYA TULIS ILMIAH T.A 2026

NAMA : Putra Dianto
 NIM : P07534023039
 NAMA DOSEN PEMBIMBING : Febri Sembiring, S.Si, M.Si
 JUDUL KTI : Perbedaan Kemampuan Aktivitas Antimikroba
 Bakteri Asam Laktat Yang Diisolasi Dari Terites

No	Hari/Tanggal Bimbingan	Materi Bimbingan	Paraf Dosen Pembimbing
1.	Selasa, 13 Januari 2026	Pengajuan Judul	
2.	Selasa, 27 Januari 2026	ACC Judul	
3.	Rabu, 4 Februari 2026	Pengajuan Tentative	
4.	Kamis, 19 Februari 2026	Revisi Bab I	
5.	Jumat, 20 Februari 2026	Bimbingan Bab II-III	
6.	Selasa, 24 Februari 2026	Revisi Bab II-III	
7.	Senin, 10 Maret 2026	Revisi Bab II-III	
8.	Selasa, 7 April 2026	ACC Proposal	
9.	Rabu, 15 April 2026	Bimbingan Bab IV-V	
10.	Jumat, 8 Mei 2026	Revisi Bab IV-V	
11.	Kamis, 21 Mei 2026	Revisi Bab IV-V	
12.	Rabu, 3 Juni 2026	ACC KTI	

Ketua Jurusan
 Teknologi Laboratorium Medis

 Nita Andriani Lubis S.Si, M.Biomed
 NIP.198012242009122001

Medan, 3 Juni 2026
 Dosen Pembimbing

Febri Sembiring, S.Si, M.Si
 NIP. 199202102022031002



Dokumen ini telah ditandatangani secara elektronik menggunakan sertifikat elektronik yang diterbitkan oleh Balai Besar Sertifikasi Elektronik (BSrE), Badan Siber dan Sandi Negara

Lampiran 5 Dokumentasi Penelitian



Preparasi Media



Preparasi Larutan Pengencer



Koloni Bakteri Pada Seri Pengenceran



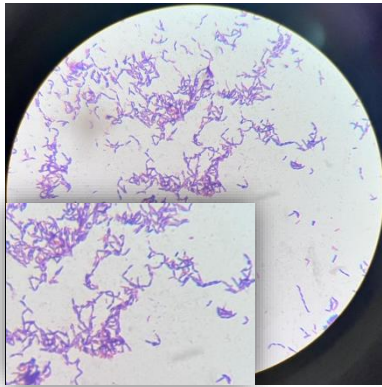
Pewarnaan Gram



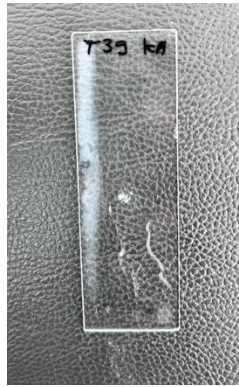
Pemindahan *Production Culture* Ke
Tabung Centrifuge



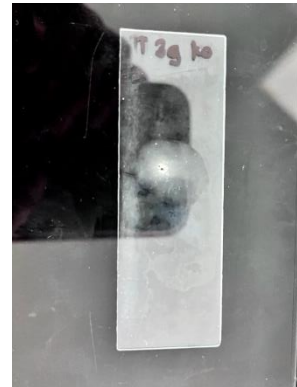
Uji Antibakteri



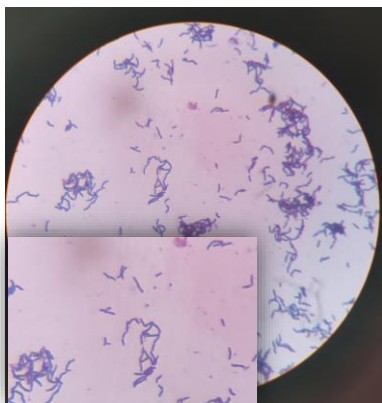
Gram TP 39



Katalase TP 39



Koagulase TP 39



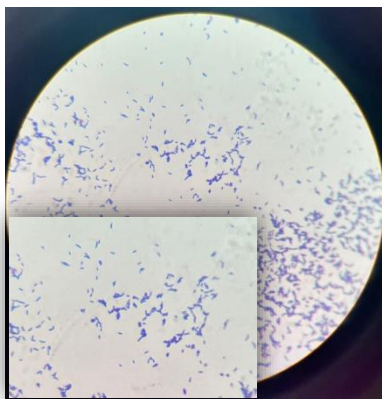
Gram TP 83



Katalase TP 83



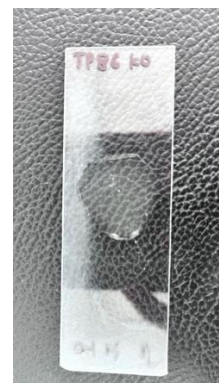
Koagulase TP 83



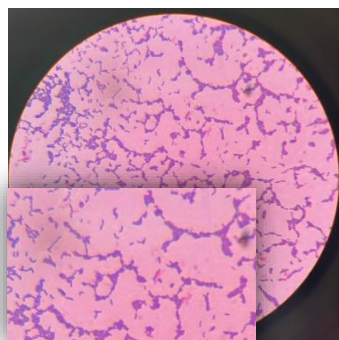
Gram TP 86



Katalase TP 86



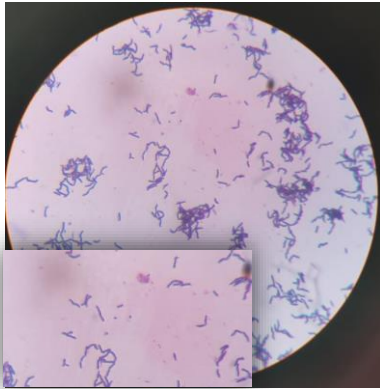
Koagulase TP 86



Gram TP 106



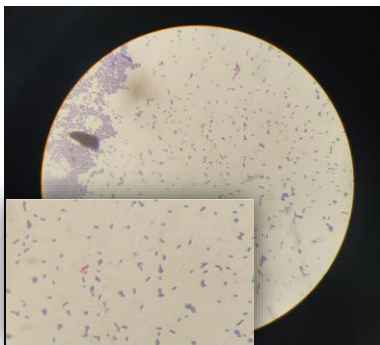
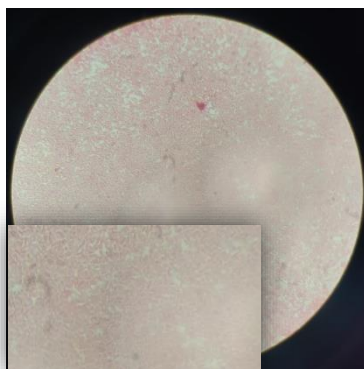
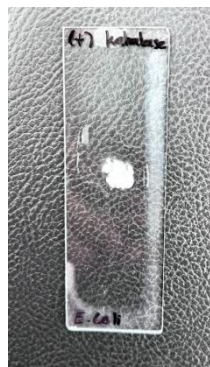
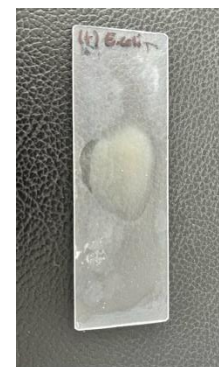
Koagulase TP 106



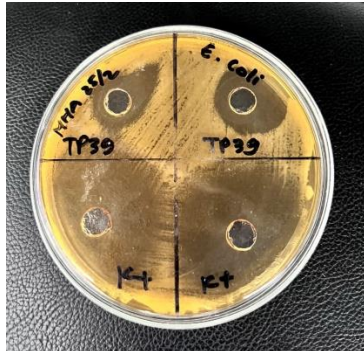
Gram TP 121



Koagulase TP 121

Kontrol (+) Gram
Lactobacillus plantarumKontrol (-) Katalase
Lactobacillus plantarumKontrol (-) Koagulase
Lactobacillus plantarumKontrol (-) Gram
Escherichia coliKontrol (+) Katalase
Escherichia coliKontrol (+) Koagulase
Escherichia coli

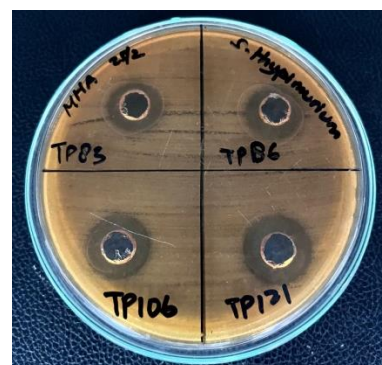
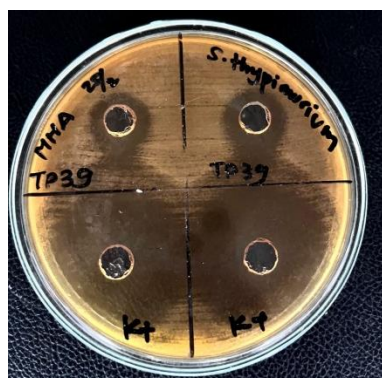
Kenampakkan Zona Hambat Bakteri Asam Laktat Terhadap Bakteri Pathogen
 Bakteri Asam Laktat Terhadap Bakteri
Escherichia coli



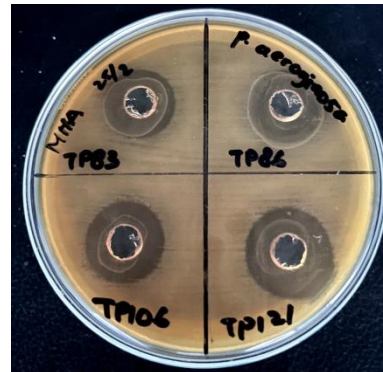
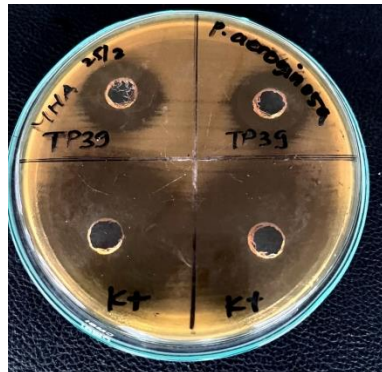
Bakteri Asam Laktat Terhadap Bakteri
Staphylococcus aureus



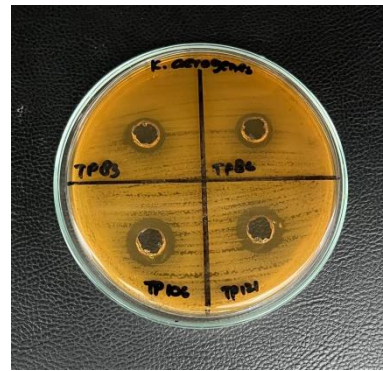
Bakteri Asam Laktat Terhadap Bakteri
Salmonella typhimurium



Bakteri Asam Laktat Terhadap Bakteri
Pseudomonas aeruginosa



Bakteri Asam Laktat Terhadap Bakteri
Klebsiella aerogenes



**Putra Dianto**

Penulis dilahirkan di Sampali pada 23 Februari 2005. Merupakan anak kedua dari 3 bersaudara dari pasangan Bapak Suriyanto A dan Ibu Misdiana, Adik laki-laki bernama Aril Dianto. Penulis bersekolah di SDN 101776 Percut Sei Tuan dari tahun 2011 sampai 2017, dan melanjutkan Sekolah Menengah Pertama di SMP Negeri 6 Percut Sei Tuan dari tahun 2017 sampai

2020. Penulis juga berkesempatan melanjutkan Pendidikan sekolah Menengah Atas di SMK Dharma Analitika Medan dari tahun 2020 sampai 2023. Penulis kemudian melanjutkan Pendidikan di Perguruan Tinggi Poltekkes Kemenkes Medan di Jurusan Teknologi Laboratorium Medis. Penulis mempunyai hobi bermain badminton dan berenang.

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