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LAMPIRAN

Lampiran 1 Surat Rekomendasi Persetujuan Etik

KEMENTERIAN PENDIDIKAN, KEBUDAYAAN, RISET DAN TEKNOLOGI
UNIVERSITAS HASANUDDIN FAKULTAS KEDOKTERAN
KOMITE ETIK PENELITIAN UNIVERSITAS HASANUDDIN
RSPTN UNIVERSITAS HASANUDDIN
RSUP Dr. WAHIDIN SUDIROHUSODO MAKASSAR
Sekretariat : Lantai 2 Gedung Laboratorium Terpadu
JL.PERINTIS KEMERDEKAAN KAMPUS TAMALANREA KM.10 MAKASSAR 90245.
Contact Person: dr. Agussalim Bukhari,.MMed.PhD, SpGK TELP. 081241850858, 0411 5780103, Fax : 0411-581431

REKOMENDASI PERSETUJUAN ETIK
Nomor : 183/UN4.6.4.5.31/ PP36/ 2023

Tanggal: 20 Maret 2023

Dengan ini Menyatakan bahwa Protokol dan Dokumen yang Berhubungan Dengan Protokol berikut ini telah mendapatkan Persetujuan Etik :

No Protokol	UH23020121	No Sponsor Protokol	
Peneliti Utama	**Jasmaunna, S.Tr.Kes**	Sponsor	
Judul Peneliti	Pengaruh Induksi Allulose Terhadap Tingkat Ekspresi Glut-5, Glut-7, Dan Glut-11 Sel Kanker Payudara MCF-7		
No Versi Protokol	**1**	Tanggal Versi	**18 Februari 2023**
No Versi PSP		Tanggal Versi	
Tempat Penelitian	RS Universitas Hasanuddin Makassar		
Jenis Review	[x] Exempted [ ] Expedited [ ] Fullboard Tanggal	Masa Berlaku **20 Maret 2023** sampai **20 Maret 2024**	Frekuensi review lanjutan
Ketua KEP Universitas Hasanuddin	Nama **Prof.Dr.dr. Suryani As'ad, M.Sc.,Sp.GK (K)**	Tanda tangan	
Sekretaris KEP Universitas Hasanuddin	Nama **dr. Agussalim Bukhari, M.Med.,Ph.D.,Sp.GK (K)**	Tanda tangan	

Kewajiban Peneliti Utama:

- Menyerahkan Amandemen Protokol untuk persetujuan sebelum di implementasikan
- Menyerahkan Laporan SAE ke Komisi Etik dalam 24 Jam dan dilengkapi dalam 7 hari dan Lapor SUSAR dalam 72 jam setelah Peneliti Utama menerima laporan
- Menyerahkan Laporan Kemajuan (progress report) setiap 6 bulan untuk penelitian resiko tinggi dan setiap setahun untuk penelitian resiko rendah
- Menyerahkan laporan akhir setelah Penelitian berakhir
- Melaporkan penyimpangan dari prokol yang disetujui (protocol deviation / violation)
- Mematuhi semua peraturan yang ditentukan

Lampiran 2 Surat Keterangan Bebas Laboratorium

HUM-RC	ADMINISTRASI	FORMULIR 2
	Nomor : 097/03/FR2/2023	Tanggal : 15 Maret 2024

SURAT KETERANGAN
SELESAI PENGAMBILAN DATA/ ANALISA BAHAN HAYATI

Dengan hormat,

Dengan ini menerangkan bahwa peneliti/mahasiswa berikut ini :

Nama : Jasmaunna
NIM PO62212025
Institusi : S2 Ilmu Biomedik Sekolah Pascasarjana UNHAS
Judul Penelitian : **Pengaruh Induksi Allulose Terhadap Tingkat Ekspresi Glut5, Glut7, Dan Glut11 Sel Kanker Payudara MCF-7**

Telah selesai melakukan pengambilan data/ analisa bahan hayati :

Pada tanggal : 6 Maret 2024
Jumlah subjek : (Cell Line MCF-7)
Jenis data : Data Primer

Dengan staf pendamping/pembimbing :

Nama : Hijral Aswad, S.Si., M.Kes
Konsultan : -

Surat keterangan ini juga merupakan penjelasan bahwa peneliti/mahasiswa diatas tidak mempunyai sangkutan lagi pada unit/laboratorium kami.

Demikian surat ini dibuat untuk dipergunakan sebagaimana mestinya.

Pendamping/Pembimbing

Hijral Aswad, S.Si., M.Kes
NIP

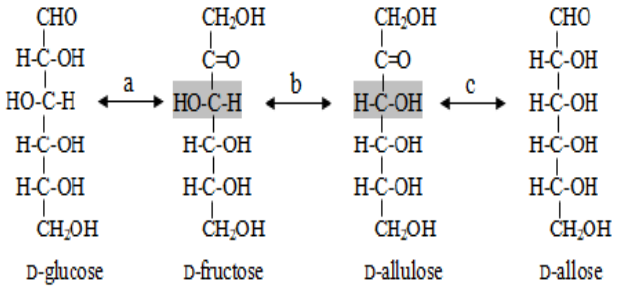
Mengetahui,
Kepala Laboratorium,

HUM-RC
science for a better future

dr. Rusdina Bte Ladju, Ph.D
NIP 198108302012122002

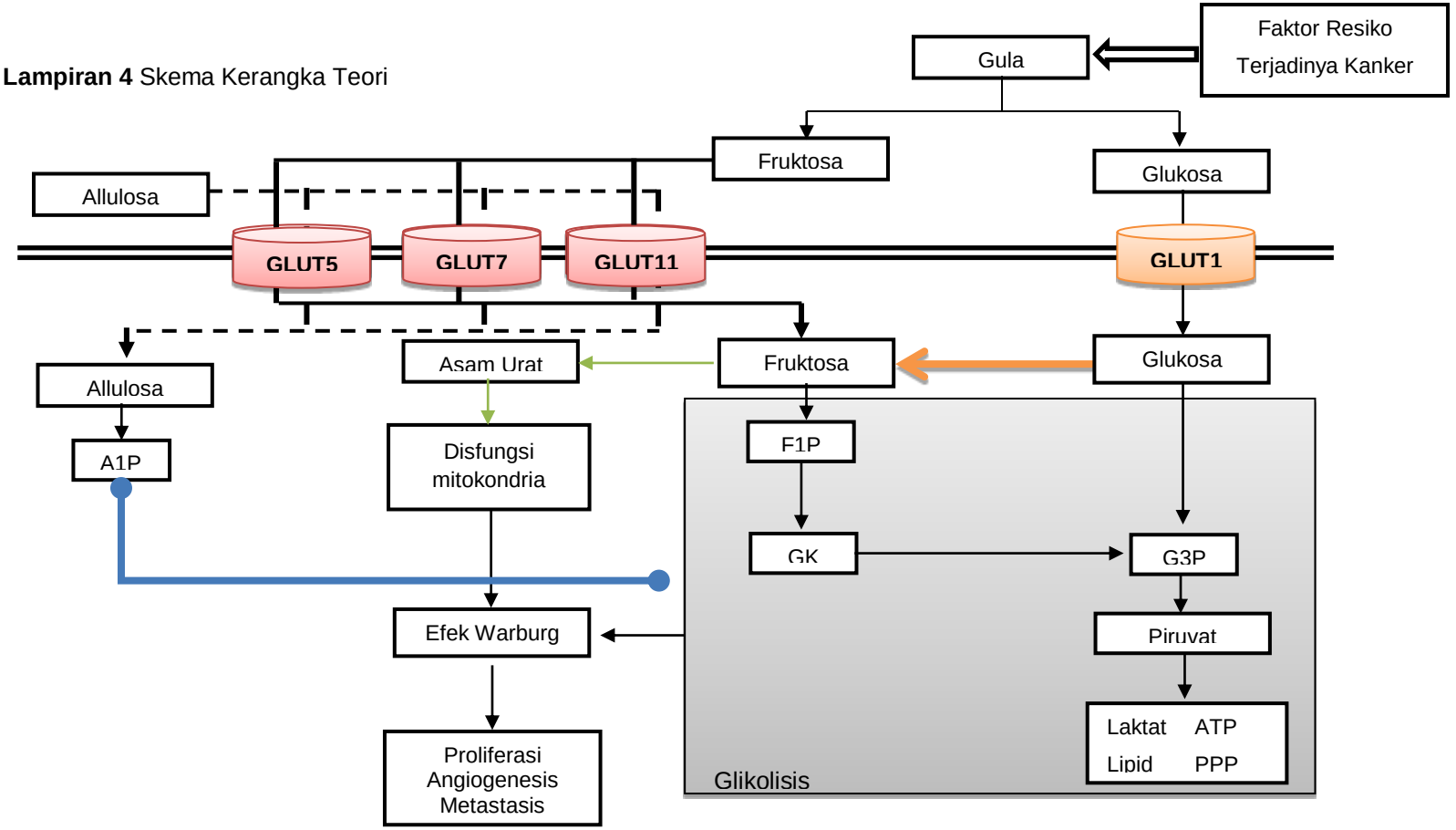
Lampiran 3 Sifat Kimia dan Konversi Enzimatik D-allulosa

Sifat kimia	Keterangan
Formula molekul	$C_6H_{12}HAl_6$
CAS	551-68-8
Masa molar	180.156 g/mol
ID PubChem	90.008
Keadaan fisik	Kristal padat putih
Direalisasikan	-D-piranosa
Konformasi	1C (^{1}C4 (D))
Bau	/
Titik lebur	96°C
Rotasi optic	kira-kira − 85 degdm^{-1}·g^{-1}·cm^3
Kelarutan	Larutkan 291 g dalam 100 g air
Manis (relatif terhadap sukrosa)	70%
Energi	0,007 kkal/g



Gambar 8 struktur dan konversi enzimatik D-allulose
Sumber (Hossain et al., 2015)

Lampiran 4 Skema Kerangka Teori



Keterangan
: Sel Epitel Payudara
: Diteliti
: Menghambat
: Berhubungan
: Berpengaruh melalui Jalur Poliol
: Produk samping fruktosa

Gambar 9 kerangka konsep

Lampiran 5 Data Statistik Uji Viabilitas (MTT Assay)

Test of Homogeneity of Variances

	Levene Statistic	df1	df2	Sig.
Abs_0h	4.492	7	16	.006
Abs_24h	1.631	7	16	.197
Abs_48h	1.759	7	16	.165
Abs_72h	1.603	7	16	.205

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Abs_0h	Between Groups	.003	7	.000	.643	.715
	Within Groups	.009	16	.001		
	Total	.011	23			
Abs_24h	Between Groups	.001	7	.000	7.705	.000
	Within Groups	.000	16	.000		
	Total	.002	23			
Abs_48h	Between Groups	.010	7	.001	82.948	.000
	Within Groups	.000	16	.000		
	Total	.010	23			
Abs_72h	Between Groups	.003	7	.000	26.598	.000
	Within Groups	.000	16	.000		
	Total	.003	23			

Lampiran 6 Analisis Data Uji Viabilitas (TBE assay)

Descriptives

viabilitas koma

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Allu1	3	64.000	18.0278	10.4083	19.217	108.783	49.0	84.0
Allu2	3	17.900	5.7297	3.3081	3.667	32.133	13.0	24.2
Allu3	3	20.300	8.0293	4.6357	.354	40.246	11.4	27.0
Fruk1	3	49.167	14.0208	8.0949	14.337	83.996	37.0	64.5
Fruk2	3	51.800	7.0548	4.0731	34.275	69.325	47.0	59.9
Fruk3	3	64.800	17.0432	9.8399	22.462	107.138	48.5	82.5
LG	3	14.667	4.5092	2.6034	3.465	25.868	10.0	19.0
HG	3	102.500	8.7607	5.0580	80.737	124.263	93.5	111.0
Total	24	48.142	30.2440	6.1735	35.371	60.913	10.0	111.0

Test of Homogeneity of Variances

viabilitas koma

Levene Statistic	df1	df2	Sig.
1.463	7	16	.249

ANOVA

viabilitas koma

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	18925.625	7	2703.661	20.478	.000
Within Groups	2112.413	16	132.026		
Total	21038.038	23			

Lampiran 7 Analisis Data Migrasi Sel (Migration Rate)

Descriptives

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
wound closure 6h	allu1	3	12504.8533	2372.38786	1369.69877	6611.5152	18398.1915	9984.85	14695.13
	allu2	3	8909.4133	1073.19500	619.60942	6243.4492	11575.3775	7836.22	9982.61
	allu3	3	6445.0900	3832.80000	2212.86811	-3076.1130	15966.2930	2612.29	10277.89
	fruit1	3	10069.7100	1032.60119	596.17258	7504.5864	12634.8336	8950.02	10984.50
	fruit2	3	11262.3900	4488.66000	2591.52906	111.9404	22412.8396	8773.73	15751.05
	fruit3	3	12256.8300	2655.13000	1532.94002	5661.1214	18852.5386	9601.70	14911.96
	LG	3	10115.4833	3944.09023	2277.12155	317.8201	19913.1466	6036.83	13909.60
	HG	3	11408.1200	2245.92392	1296.68478	5828.9357	16987.3043	9556.41	13906.41
	Total	24	10371.4863	3118.83225	636.62897	9054.5189	11688.4536	2612.29	15751.05
wound closure 24h	allu1	3	13609.4033	5125.18130	2959.02480	877.7472	26341.0595	9183.90	19224.90
	allu2	3	14969.1967	4043.54548	2334.54207	4924.4728	25013.9205	10389.23	18045.43
	allu3	3	12297.5500	1274.96000	736.09850	9130.3738	15464.7262	11022.59	13572.51
	fruit1	3	13692.0400	3319.58208	1916.56161	5445.7410	21938.3390	10550.03	17164.48
	fruit2	3	12391.6333	4369.47500	2522.71757	1537.2557	23246.0110	8022.16	16761.11
	fruit3	3	13178.5067	811.19500	468.34365	11163.3866	15193.6268	12367.31	13989.70
	LG	3	11895.0600	2624.99400	1515.54099	5374.2134	18415.9066	9052.49	14227.63
	HG	3	12866.0933	7724.86433	4459.95250	-6323.5335	32055.7201	3956.40	17690.47
	Total	24	13112.4354	3632.21162	741.42209	11578.6870	14646.1839	3956.40	19224.90

Test of Homogeneity of Variances

	Levene Statistic	df1	df2	Sig.
wound closure 6h	.825	7	16	.581
wound closure 24h	2.722	7	16	.046

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
wound closure 6h	Between Groups	83054838.95	7	11864976.99	1.350	.291
	Within Groups	140668797.3	16	8791799.830		
	Total	223723636.2	23			
wound closure 24h	Between Groups	20283382.64	7	2897626.091	.164	.989
	Within Groups	283154726.2	16	17697170.39		
	Total	303438108.8	23			

Lampiran 8 Biodata Penulis

BIODATA PENULIS

JASMAUNNA. Lahir di Barru, 09 Desember 1996. Saya merupakan lulusan dari Program Studi Teknologi Laboratorium Medis di Universitas Megarezky pada tahun 2020. Sejak awal pendidikan, saya memiliki minat yang besar dalam bidang sains dan penelitian, yang mendorong saya untuk melanjutkan studi di Program Magister Ilmu Biomedis di Universitas Hasanuddin.

Selama menempuh pendidikan sarjana, saya aktif dalam berbagai kegiatan akademik dan organisasi. Saya pernah menjadi anggota aktif di PT. Satu Laboratika Utama, dimana saya mendapatkan banyak pengalaman berharga dalam pengembangan keterampilan kepemimpinan dan kerjasama tim. Selain itu, saya juga aktif dalam kegiatan penelitian di laboratorium, yang memberikan saya dasar yang kuat dalam metodologi penelitian dan teknik laboratorium.

Untuk tesis magister saya, saya memilih topik "Pengaruh Induksi D-Allulosa Terhadap Tingkat Ekspresi mRNA GLUT5, GLUT7, dan GLUT11 Sel Kanker Payudara MCF-7". Pilihan topik ini didasarkan pada minat saya dalam memahami mekanisme molekuler kanker dan potensi terapi baru yang dapat dikembangkan dari penelitian ini. Dalam penelitian ini, saya bekerja di bawah bimbingan Prof dr. Rosdiana Natzir., Ph.D., Sp. Biok(K) dan Dr. dr. Ika Yustisia, M.Sc, yang telah memberikan banyak bimbingan dan dukungan dalam pengembangan dan pelaksanaan penelitian saya.

Pengalaman penelitian saya di laboratorium telah memberikan saya keterampilan praktis dalam teknik-teknik biologi molekuler, seperti PCR dan kultur sel. Selain itu, saya memiliki kemampuan analisis data yang kuat menggunakan perangkat lunak statistik, yang sangat berguna dalam mengevaluasi hasil penelitian saya.

Dengan latar belakang pendidikan dan pengalaman penelitian yang saya miliki, saya berkomitmen untuk terus mengembangkan pengetahuan dan keterampilan saya dalam bidang biomedis, serta berkontribusi dalam pengembangan ilmu pengetahuan yang bermanfaat bagi masyarakat luas.