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LAMPIRAN

1. Rekomendasi Persetujuan Etik

 <p style="text-align: center;">KEMENTERIAN PENDIDIKAN DAN KEBUDAYAAN UNIVERSITAS HASANUDDIN FAKULTAS KEDOKTERAN KOMITE ETIK PENELITIAN KESEHATAN 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</p> 			
REKOMENDASI PERSETUJUAN ETIK			
Nomor : 408/UN4.6.4.5.31/ PP36/ 2021			
Tanggal: 18 Juni 2021			
Dengan ini Menyatakan bahwa Protokol dan Dokumen yang Berhubungan Dengan Protokol berikut ini telah mendapatkan Persetujuan Etik :			
No Protokol	UH21050289	No Sponsor	
Peneliti Utama	dr. Muhammad Fadli Said, SpBS	Sponsor	
Judul Peneliti	Pengaruh Pemberian Eritropoietin terhadap Ekspresi Brain-Derived Neutrophic Factor mRNA (BDNF mRNA), kadar Stromal Cell-Derived Factor-1(SDF-1), dan Neuron Specific Enolase (NSE) pada Tikus Sprague Dawley Model Cedera Otak.		
No Versi Protokol	2	Tanggal Versi	17 Juni 2021
No Versi PSP		Tanggal Versi	
Tempat Penelitian	Laboratorium Animal FKUH dan Laboratorium Mikrobiologi FK Universitas Hasanuddin Makassar		
Jenis Review	<input type="checkbox"/> Exempted <input checked="" type="checkbox"/> Expedited <input type="checkbox"/> Fullboard Tanggal	Masa Berlaku 18 Juni 2021 sampai 18 Juni 2022	Frekuensi review lanjutan
Ketua Komisi Etik Penelitian Kesehatan FKUH	Nama Prof.Dr.dr. Suryani As'ad, M.Sc.,Sp.GK (K)	Tanda Tangan 	
Sekretaris Komisi Etik Penelitian Kesehatan FKUH	Nama dr. Agussalim Bukhari, M.Med.,Ph.D.,Sp.GK (K)	Tanda Tangan 	
Kewajiban Peneliti Utama: <ul style="list-style-type: none"> • Menyerahkan Amandemen Protokol untuk persetujuan sebelum di implementasikan • Menyerahkan Laporan SAE ke Komisi Etik dalam 24 Jam dan dilengkapi dalam 7 hari dan Lapo 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 			

2. Perlakuan Kelompok Hewan Coba



Penimbangan hewan coba



Eritropoietin yang digunakan



Alat Marmarou



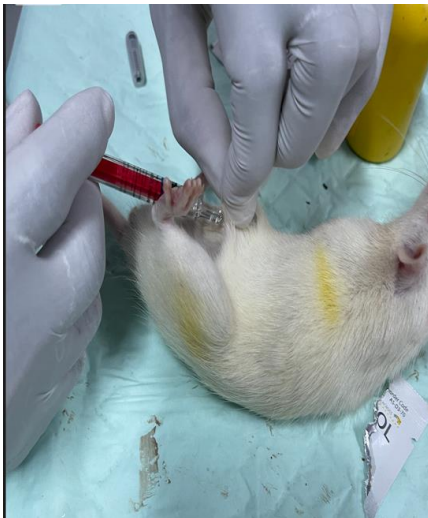
Insisi dan craniotomi tikus



Perlakuan cedera otak



Pengambilan sampel serum



Injeksi eritropoietin



Pengambilan sampel jaringan.

3. Pemeriksaan PCR untuk menilai Ekspresi mRNA BDNF



GreenPrimer RTPCR Gen BDNF / Housekeeping Gen GAPDH



PCR Master Mix SYBR



Pembuatan PCR Mix



Nanodrop



Memasukkan template ke dalam PCR Mix



Mesin P



Analisa hasil PCR

4. Pemeriksaan ELISA untuk Menilai Kadar SDF-1 dan NSE



Kit Elisa Rat ENO2 dan SDF1



Kit Rat SDF1 Elisa Kit Cat. No. LS-F21608



Menyiapkan semua reagen, standar, dan sampel.



Mengisi sampel dan standar kedalam plate



Inkubasi Plate ke waterbath 37°C selama 90 menit lalu kosongkan plate



Isi Biotin ke dalam plate lalu inkubasi 1 jam



Buang Biotin lalu Cuci Plate 3X kedalam Plate



Mengisi plate dengan HRP Conjugate 1X



Buang Conjugate lalu Cuci Plate 5X



Isi TMB Substrate ke dalam plate lalu inkubasi, standar dan sampel akan berwarna biru

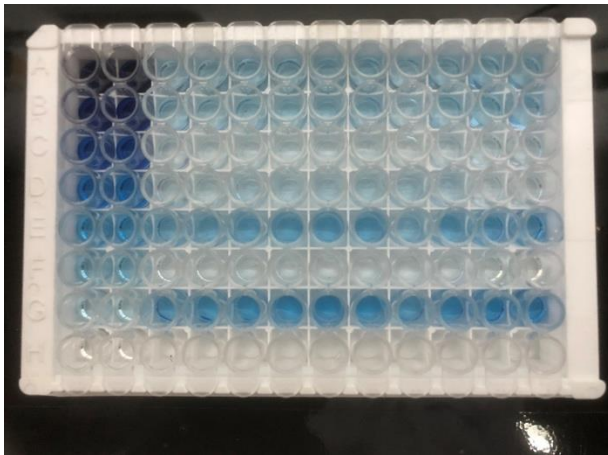
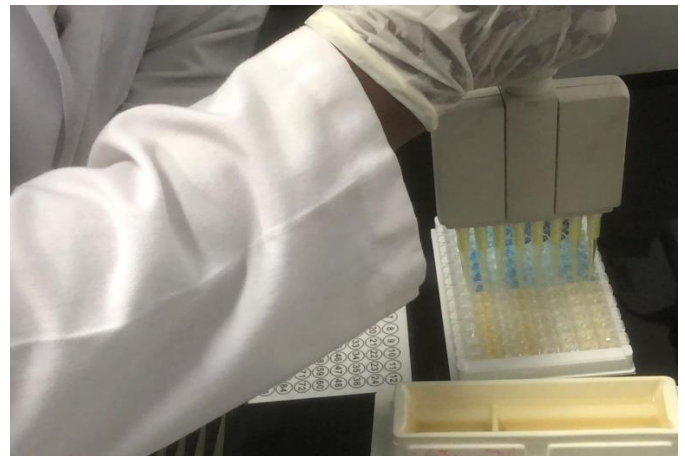


Plate setelah pengisian Substrate.



Stop reaksi dengan penambahan reagen Stop Reaction, Sampel dan standar akan berubah dari biru ke kuning.

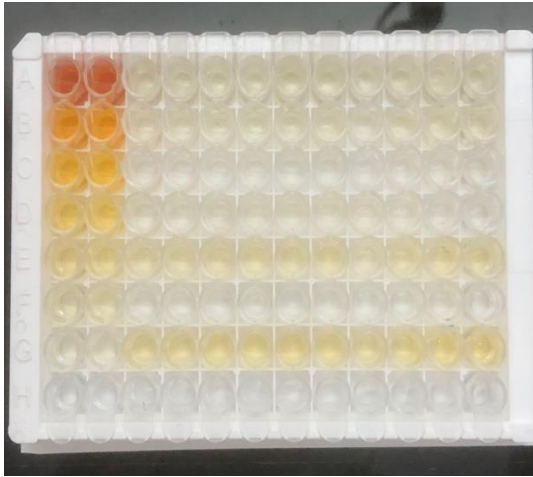


Plate setelah stop reaksi.



Baca plate ke dalam mesin elisa dengan filter 450 nm



Analisa hasil tes elisa



MACROGEN
Advancing through Genomics

Mochammad Hatta
BTN ANTARA B6/6,
Perintis Kemerdekaan, Km.9
90245

OG250521

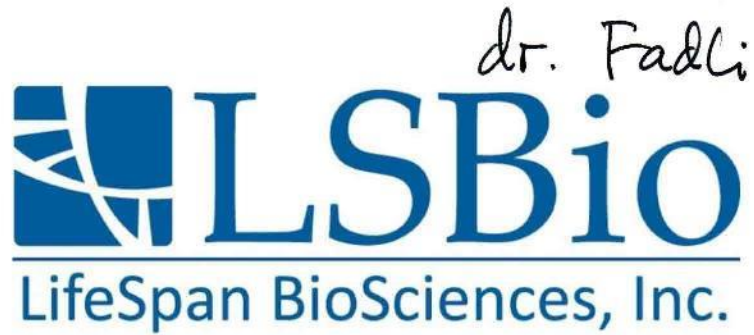
Order date : 2021/05/25
Packing date : 2021/05/29

Page : 1 / 1

Oligo	BDNF Forward						
SEQ	5'-GAGAAGAGTGATGACCATCCT-3' (21mer)						
GC%	MW		Yield		scale (umoles)	Tm(°C)	
	calculated	measured	OD	nmol			
41.7	6,471.8	6,436.8	18.3	76.7	0.2	56.8	
vol. for 100pmol/ul		Purification		Modification			
325		MOPC					
Oligo	BDNF Reverse						
SEQ	5'-TCACGTGCTCAAAGTGTCAG-3' (21mer)						
GC%	MW		Yield		scale (umoles)	Tm(°C)	
	calculated	measured	OD	nmol			
41.7	6,511.4	6,388.2	18.4	74.1	0.2	56.8	
vol. for 100pmol/ul		Purification		Modification			
331		MOPC					
Oligo	GAPDH Forward						
SEQ	5'-AGTCCGGTGTGAACGGATTG-3' (21mer)						
GC%	MW		Yield		scale (umoles)	Tm(°C)	
	calculated	measured	OD	nmol			
43.4	6,569.2	6,538.2	17.7	72.7	0.2	58.8	
vol. for 100pmol/ul		Purification		Modification			
305		MOPC					
Oligo	GAPDH Reverse						
SEQ	5'-GGGTCGTTGATGGCAACA-3' (19mer)						
GC%	MW		Yield		scale (umoles)	Tm(°C)	
	calculated	measured	OD	nmol			
43.4	6,793.4	6,471.6	17.4	71.9	0.2	58.8	
vol. for 100pmol/ul		Purification		Modification			
302		MOPC					

World Meridian 10F, Gasan-dong, Geumcheon-gu, Seoul, 153-781 KOREA TEL +82-2-2113-7363 | FAX +82-2-2113-7120

Sheet Primer Rat BDNF



**Rat SDF1 / CXCL12 ELISA Kit
(Sandwich ELISA)**

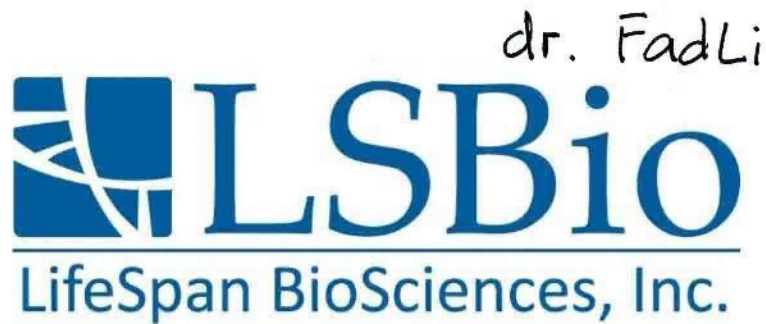
User Manual

Catalog No. LS-F21608

It is important that you read this entire manual carefully before starting your experiment.

This kit is for Research Use Only. Not for Diagnostic Use.
This kit is not approved for use in humans or for clinical diagnosis.

SDF-1 ELISA KIT



**Rat ENO2 / NSE ELISA Kit
(Sandwich ELISA)**

User Manual

Catalog No. LS-F5577

It is important that you read this entire manual
carefully before starting your experiment.

This kit is for Research Use Only. Not for Diagnostic Use.
This kit is not approved for use in humans or for clinical diagnosis.

NSE ELISA KIT

5. Hasil pemeriksaan RTPCR Gen Rat BDNF dengan Housekeeping Gen Rat GAPDH

Plate 1

NO	Sampel	Ekspresi (Fold change)
1	LA01	6,278
2	LA02	6,844
3	LA03	6,040
4	LA04	5,468
5	LA05	5,781
6	LB01	7,357
7	LB02	8,647
8	LB03	7,878
9	LB04	8,140
10	LB05	7,560
11	LC01	8,412
12	LC02	9,821
13	LC03	9,620
14	LC04	9,248
15	LC05	8,907

Plate 2

NO	Sampel	Ekspresi (Fold change)
1	LA06	6,326
2	LA07	5,117
3	LA08	5,438
4	LA09	5,812
5	LA10	6,013
6	LA11	10,424
7	LA12	10,376
8	LA13	10,075
9	LA14	9,792
10	LA15	10,197
11	LB06	6,485
12	LB07	6,236
13	LB08	6,216
14	LB09	6,709
15	LB10	6,588
16	LC06	7,220
17	LC07	6,983
18	LC08	7,344
19	LC09	7,095
20	LC10	7,474

6. Hasil Pemeriksaan Rat SDF-1/CXCL12 ELISA Kit KATALOG LS-F21608

No	No Sampel	Konsentrasi (ng/ml)
1	SA01	7,984
2	SA02	7,698
3	SA03	8,127
4	SA04	6,860
5	SA05	7,146
6	SA06	6,411
7	SA07	8,290
8	SA08	6,983
9	SA09	7,514
10	SA10	6,656
11	SA11	1,978
12	SA12	2,979
13	SA13	1,712
14	SA14	3,387
15	SA15	2,693
16	SB01	5,798
17	SB02	6,676
18	SB03	6,472
19	SB04	6,309
20	SB05	6,329
21	SB06	9,373
22	SB07	9,005
23	SB08	9,148
24	SB09	9,598
25	SB10	10,456
26	SC01	3,959
27	SC02	4,245
28	SC03	5,389
29	SC04	4,613
30	SC05	5,063
31	SC06	11,763
32	SC07	11,354
33	SC08	13,070
34	SC09	12,662
35	SC10	13,275

7. Hasil Pemeriksaan Rat ENO2/NSE ELISA KIT Katalog LS-F5577

No	No Sampel	Konsentrasi (ng/ml)
1	SA01	19,059
2	SA02	17,548
3	SA03	23,759
4	SA04	22,081
5	SA05	20,234
6	SA06	18,471
7	SA07	17,212
8	SA08	24,599
9	SA09	20,990
10	SA10	18,136
11	SA11	3,195
12	SA12	1,432
13	SA13	7,056
14	SA14	4,034
15	SA15	5,629
16	SB01	14,359
17	SB02	16,877
18	SB03	19,563
19	SB04	18,723
20	SB05	16,709
21	SB06	26,445
22	SB07	32,153
23	SB08	30,307
24	SB09	31,230
25	SB10	28,124
26	SC01	10,330
27	SC02	13,519
28	SC03	15,869
29	SC04	11,673
30	SC05	9,322
31	SC06	34,084
32	SC07	36,938
33	SC08	38,952
34	SC09	35,511
35	SC10	41,050

Tabel x. Instrumen pencatatan berat tikus dan dosis obat yang diberikan.

Nomor	Kelompok	Berat Badan (gram)	Dosis EPO 30.000 U/kg	Dosis Ketamin 50 mg/kg
1.	A	203		
2.	A	205		
3.	A	209		
4.	A	211		
5.	A	196		
6.	B	210		10.5 mg
7.	B	213		10.65 mg
8.	B	200		10 mg
9.	B	197		9.85 mg
10.	B	199		9.95 mg
11.	C	205	6.150 U	10.25 mg
12.	C	213	6.390 U	10.65 mg
13.	C	198	5.940 U	9.9 mg
14.	C	207	6.210 U	10.35 mg
15.	C	205	6.150 U	10.25 mg

Kelompok A (1-5) : Trauma (-), EPO (-)
Kelompok B (6-10) : Trauma (+), EPO (-)
Kelompok C (11-15) : Trauma (+), EPO (+)