

PERKARA : KADAR CAJ PERKHIDMATAN LABORATORI VAKSIN DAN IMMUNOTERAPEUTIK (LIVES), INSTITUT BIOSAINS

KEPUTUSAN JAWATANKUASA TETAP : BIL. 3 (2014) 25 SEPTEMBER 2014
KEWANGAN (JKTK)

MINIT : Minit 11/3(2014)

Bil	Jenis Perkhidmatan	Jenis Analisis / Catatan	Unit	UPM (RM)	Institusi Kerajaan (RM)	Swasta (RM)
1	Atomic Absorption Spectrometer (AAS)	Menentukan unsur-unsur kimia yang menggunakan penyerapan sinaran optik (cahaya) oleh atom bebas dalam keadaan gas	sample/ element	60.00	70.00	80.00
2	AAS Sample Preparation for Element Hg/As/Se.	Penyediaan sampel untuk analisis AAS (Hg/As/Se).	sample	170.00	200.00	250.00
3	AAS Complete Analysis (Sample preparation + analysis, except element Hg/As/Se)	Penyediaan sampel serta analisis menggunakan teknik AAS (tidak termasuk elemen Hg/As/Se).	sample/ element (For 40 samples and above)	24.00	25.00	26.00
4	Autoclave	Mensterilkan bahan-bahan untuk kegunaan penyelidikan dan perkhidmatan	run	15.00	20.00	30.00

Bil	Jenis Perkhidmatan	Jenis Analisis / Catatan	Unit	UPM (RM)	Institusi Kerajaan (RM)	Swasta (RM)
5	Bioanalyzer	Menentukan kualiti dan kuantiti DNA dan RNA.	chip/run	DNA – 240.00 HS DNA - 360.00 RNA Pico 270.00 Small RNA - 330.00	DNA – 250.00 HS DNA - 390.00 RNA Pico - 290.00 Small RNA - 360.00	DNA - 260.00 HS DNA - 430.00 RNA Pico - 320.00 Small RNA - 400.00
6	Bioanalyzer Access Fee	Menentukan kualiti dan kuantiti DNA dan RNA.	chip/run	55.00	60.00	65.00
7	Biospectrometer	Mengukur penyerapan pada panjang gelombang tertentu atau mendapatkan spektrum UV sebatian tulen.	sample (for DNA/RNA/Nucleic Acid quantification only)	2.50	3.00	3.50
8	Chemiluminescence Imaging System (Chemi-doc)	Pengimejan gel yang menggunakan <i>chemiluminescent/fluorescent</i> .	read	25.00	30.00	40.00
9	CLCBio Workstation Access Fee	Menganalisa data bioinformatik.	hour	12.00	15.00	20.00

Bil	Jenis Perkhidmatan	Jenis Analisis / Catatan	Unit	UPM (RM)	Institusi Kerajaan (RM)	Swasta (RM)
10	Conventional PCR	Mengamplifikasi DNA target.	hour	11.00	12.00	13.00
11	ECO qPCR system for NGS QC analysis	Mengamplifikasi dan sekaligus mengukur molekul DNA target	run + sample	410.00 + 40.00	420.00 + 40.00	430.00 + 40.00
12	ECO qPCR system Access Fee	Mengamplifikasi dan sekaligus mengukur molekul DNA target	run	55.00	60.00	65.00
13	Elisa Reader	Menentukan kepekatan sesuatu bahan tertentu melalui magnitud pendafluor atau cahaya yang dipancarkan	plate	11.00	12.00	13.00
14	Gel Doc (without print-out)	Pengimejan gel dengan menggunakan cahaya UV	read	6.00	8.00	10.00
15	High Speed Centrifuge	Pemisahan campuran sampel melalui emparan	hour	60.00	80.00	100.00
16	Infrared Imaging System	Pengimejan gel dan membran (cth: Western Blot, etc.) serta penentuan kuantiti/kepekatan jalur/sel pada gel/membran/96-well flat bottom plate.	gel or membrane	55.00	60.00	70.00
17	Microwave Digester	Penyediaan sampel bagi analisis AAS.	run	140.00	160.00	180.00

Bil	Jenis Perkhidmatan	Jenis Analisis / Catatan	Unit	UPM (RM)	Institusi Kerajaan (RM)	Swasta (RM)
18	Next Generation Sequencer (MiSeq) Access/Running Fee	Penjjukan DNA automatik.	run	2,000.00	2,000.00	2,000.00
19	NGS Sample/Library Preparation (include QC)	Penyediaan sampel untuk analisis NGS (MiSeq).		Please refer Appendix I & Appendix II.		
20	Qubit	Menentukan kualiti & kuantiti DNA dan RNA.	assay	12.00	15.00	20.00
21	Quantitative Real-Time PCR Analysis	Mengamplifikasi dan sekaligus mengukur molekul DNA target	sample/ gene /run	180.00	200.00	250.00
22	Diagnosis of Avian Diseases Virus (NDV/IBDV/IBV/AIV/ILT/ Adenovirus/ Marek's disease) Using Real-time PCR	Diagnosis virus penyakit avian menggunakan PCR masa-nyata.	sample/ virus/ run	100.00	110.00	120.00
23	Real-time PCR (qPCR) System Access Fee	Mengamplifikasi dan sekaligus mengukur molekul DNA target	run	55.00	60.00	65.00
24	Scepter 2.0 Handheld Cell Counter	Mengira bilangan sel	run	100.00	110.00	120.00
25	Ultracentrifuge	Mengasingkan/mengekstrak sampel yang memerlukan kelajuan sehingga 100,000 rpm	hour	90.00	100.00	150.00

Bil	Jenis Perkhidmatan	Jenis Analisis / Catatan	Unit	UPM (RM)	Institusi Kerajaan (RM)	Swasta (RM)
26	Ultra Purification Unit	Menghasilkan air berkualiti tinggi untuk analisis DNA/RNA/protein.	liter	1.50	2.00	2.50
27	Zeiss KS Elispot System	Penilaian secara automatik dan tepat bagi esei <i>Elispot (Enzyme Linked Immuno Spot)</i> .	hour	40.00	45.00	50.00
28	Mammalian Cells Banking	Memberikan sumber konsisten pengeluaran sel yang bebas kontaminan	flask	550.00	600.00	700.00
29	Mammalian Cells Revival & Maintenance Service	Menghidup dan membiakkan sel-sel yang baru dibeli untuk tujuan penyimpanan jangka panjang bagi 10 cryovial yang pertama	i) 10 cryovials / cell line (with consumables, excluding media, supplements and reagents)	900.00	1,000.00	1,200.00
			ii) 10 cryovials / cell line (without consumables, excluding media, supplements and reagents)	450.00	500.00	600.00
30	Mammalian Cells Storage Facility	Penyimpanan jangka panjang sel mamalia dalam liquid nitrogen	vial/week	8.00	10.00	15.00

Bil	Jenis Perkhidmatan	Jenis Analisis / Catatan	Unit	UPM (RM)	Institusi Kerajaan (RM)	Swasta (RM)
31	Hemagglutination Inhibition (HI) Test		RM3.00/serum sample/testing on 1 type of antigen only			
32	Biosafety Level 3/Animal Biosafety Level 3 (BSL-3/ABSL-3) facilities Remarks: i. All authorized users must undergo training before starting work in the BSL-3/ABSL-3 Lab. The service charge includes training fees. ii. If the usage of BSL-3/ABSL-3 Lab is more than 10 days, the service charge is negotiable and will be based on project.	<i>In vitro</i> analysis <i>In vitro</i> and <i>in vivo</i> analysis		For <i>in vitro</i> analysis: i. 0-2 hr = 150.00/day ii. 2 -5 hr = 350.00/day iii. > 5 hr = 550.00/day For <i>in vitro</i> and <i>in vivo</i> analysis: i. 0-2 hr = 300.00/day ii. 2 -5 hr = 600.00/day iii. > 5 hr = 800.00 /day	For <i>in vitro</i> analysis: i. 0-2 hr = 200.00/day ii. 2 -5 hr = 400.00/day iii. > 5 hr = 600.00/day For <i>in vitro</i> and <i>in vivo</i> analysis: i. 0-2 hr = 400.00/day ii. 2 -5 hr = 700.00/day iii. > 5 hr = 900.00/day	For <i>in vitro</i> analysis: i. 0-2 hr = 300.00/day ii. 2 -5 hr = 500.00/day iii. > 5 hr = 700.00/day For <i>in vitro</i> and <i>in vivo</i> analysis: i. 0-2 hr = 500.00/day ii. 2 -5 hr = 800.00/day iii. > 5 hr = 1000.00/day
33	Bench fee	N/A	person/week (Note: 1 week = 5 working days, 8	350.00	400.00	500.00

Bil	Jenis Perkhidmatan	Jenis Analisis / Catatan	Unit	UPM (RM)	Institusi Kerajaan (RM)	Swasta (RM)
			working hours/day)			
34	Fluorescence Microscope	Memperbesar gambar sampel kecil melalui penggunaan fenomena pendafluor	hour	45.00	50.00	55.00
35	Fourier transform infrared spectroscopy (FT-IR)	Mendapatkan spektrum IR untuk penentuan struktur kimia	sample	55.00	60.00	65.00
36	Freeze Dryer (Lab Scale)	Mengeringkan sampel secara sejuk beku	hour	15.00	18.00	23.00
37	Fully Automated Surface Plasmon Resonance (SPR – BIACORE)	Meningkatkan sensitiviti permukaan beberapa ukuran spektroskopi	day	440.00	460.00	480.00
38	Gel Doc (with print-out)	Pengimejan gel dengan menggunakan cahaya UV	read	12.00	15.00	20.00
39	High Performance Liquid Chromatography (HPLC)	Menganalisis kandungan unsur di dalam sesuatu campuran melalui pemisahan secara kromatografi cecair	sample	90.00	100.00	120.00
40	High Pressure Chromatography Protein Purification & Analyzing System (Akta Explorer)	Membangunkan proses dan pengeluaran skala besar	sample	280.00	300.00	350.00

Bil	Jenis Perkhidmatan	Jenis Analisis / Catatan	Unit	UPM (RM)	Institusi Kerajaan (RM)	Swasta (RM)
41	High Pressure homogenizer (lab scale)	Menghomogenkan campuran sampel secara tekanan	hour	55.00	60.00	70.00
42	Lab Scale Fermenter System	Mengeluarkan produk fermentasi daripada yis atau bakteria.	day	270.00 (2L) 450.00 (10L)	300.00 (2L) 500.00 (10L)	350.00 (2L) 600.00 (10L)
43	Pilot Scale Protein Purification System (Akta Pilot)	Menentukan protein pada skala besar	sample	220.00	250.00	400.00
44	Protein Handling and Testing System	Mengendali dan menguji protein	run	220.00	250.00	400.00
45	UV/VIS Spectrophotometer	Mengukur penyerapan pada panjang gelombang tertentu atau mendapatkan spektrum UV sebatian tulen.	hour	12.00	15.00	20.00
46	Nano Particle Zeta Potential (Zeta Sizer)	Mengukur saiz partikel & zeta potential	sample	120.00	150.00	200.00
47	ELISA Test (IBV/IBDV)	i) Diagnosis virus penyakit avian (IBV/IBDV) menggunakan ELISA test ii) Menentukan paras antibody IBV/IBDV	RM 5.00 / sample/virus antigen			
48	Genotyping/Serotyping Using DNA Sequencing (Avian Disease Viruses)	Menentukan genotype/serotype virus penyakit ayam berdasarkan teknik jujukan DNA.	RM 80.00 per sample per virus			
49	Western Blotting with Chemiluminescence and	Pengesanan protein melalui 'western blot' menggunakan teknik	assay	380.00	400.00	450.00

Bil	Jenis Perkhidmatan	Jenis Analisis / Catatan	Unit	UPM (RM)	Institusi Kerajaan (RM)	Swasta (RM)
	Multiplex Detection Methods	'chemiluminescence' dan 'multiplex detection'.				

APPENDIX I

Column A: Sequencing (Whole Package)

Assay	Kits	Miseq reagent Kit	Total Cost	2	4	6	8	10	12
			(1 sample)						
PCR products	Nextera XT	micro kit v2 300 cycles	8300	10020	11740	13460	15180	16900	18620
		nano kit v2 300 cycles	7050	8770	10490	12210	13930	15650	17370
		std kit v2 300 cycles	9100	10820	12540	14260	15980	17700	19420
Total DNA	Truseq DNA	micro kit v2 300 cycles	8100	9180	10260	11340	12420	13500	14580
		nano kit v2 300 cycles	6850	7930	9010	10090	11170	12250	13330
		std kit v2 300 cycles	8900	9980	11060	12140	13220	14300	15380
Total RNA	Truseq RNA	std kit v2 50 cycles	8500	10900	13300	15700	18100	20500	22900
		std kit v2 300 cycles	9500	11900	14300	16700	19100	21500	23900
		V3 kit 150 cycles	8850	11250	13650	16050	18450	20850	23250
rRNA free	Scriptseq	std kit v2 50 cycles	9300	13020	16740	20460	24180	27900	31620
		std kit v2 300 cycles	10300	14020	17740	21460	25180	28900	32620
		V3 kit 150 cycles	9650	13370	17090	20810	24530	28250	31970

16s metagenomics sequencing (V3 and V4 region based on Illumina 16s protocol)

	1 sample	12 samples	24 samples	36 samples	48 samples	96 samples
Library prep cost – including library QC on Bioanalyzer, Qubit and qPCR	1700	6740	11780	16820	21320	42020

APPENDIX II

Library Preparation including Library QC – without MiSeq reagent and miseq access fee (Column A)

	Number of Samples						
Library prep only – include library QC using Bioanalyzer / Qubit / qPCR	1	2	4	6	8	10	12
Nextera XT DNA	2438	4158	5878	7598	9318	11038	12758
TruSeq DNA PCR-Free	2238	3158	4078	4998	5918	6838	7758
TruSeq RNA sample prep	2500	4900	7300	9700	12100	14500	16900
ScriptSeq v2 / Complete	3300	7020	10740	14460	18180	21900	25620

***** Customer can choose whichever MiSeq Reagent that they want, purchase and deliver to UPM for MiSeq access.**

Column B: 16s metagenomics sequencing (V3 and V4 region based on Illumina 16s protocol)

Assay	Kits	Miseq reagent Kit	Total Cost (1 sample)	12	24	36	48	96
Metagenomics	16S metagenomics	V3 kit 600 cycles	10950	15990	21030	26070	31110	51270

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