

## DAFTAR PUSTAKA

- Afrianto, E dan Liviawaty, E. 2009. *Pengendalian Hama dan Penyakit Ikan*. Kanisus: Yogyakarta.
- Al-Fatlawaty, H. N. K. dan Al-Hadrawy, H. A. 2014. Isolation and Characterization of *A. hydrophila* from the Al-Jadryia River in Baghdad (Iraq). *American Journal of Educational Research*. 2(8):658-662.
- Austin, B. dan Austin D. A. 1987. *Bacteria Fish Pathology; Diseases in Farmed and Wild Fish*. Ellis Horwood Limited: England.
- Azad, I. S., Rajendran, K. V., Rajan, J. J. S., Vijayan, K. K., dan Santiago, T. C. 2001. Virulence and histopathology of *Aeromonas hydrophila* (SAH 93) in experimentally infected tilapia, *Oreochromis mossambicus*. *Journal of Aquaculture in the Tropics*. 16(3): 265-275
- Chopra, A. K., Xu, X. I., Ribardo, D., Gonzales, M., Kuhl, K., Peterson, J.W. dan Huston, C.W. 2000. The cytotoxic enterotoxin of *Aeromonas hydrophila* induces proinflammatory cytokine production and activates arachidonic acid metabolism in macrophages. *Infection and Immunity*, 68(5): 2,808–2,818.
- Dar G. H., Dar, S. A., Kamili, A. N., Chishti, M. Z. dan Ahmad, F. 2016. Detection and characterization of potentially pathogenic *Aeromonas sobria* isolated from fish *Hypophthalmichthys molitrix* (Cypriniformes: Cyprinidae). *Microbial Pathogenesis*. 91:136-140.
- Dar, G. H., Kamili, A. N., Chishti, M. Z., Dar, S. A., Tantry, T. A. dan Ahmad, F. 2016. Characterization of *Aeromonas sobria* isolated from fish Rohu (*Labeo rohita*) collected from polluted pond. *J Bacteriol Parasitol*. 7(3):1-4
- Del Coral, F., Shotts, E. B. dan Brown, J. 1990. Adherence haemagglutination and cell surface characteristics of motil aeromonads virulent for fish. *J. of Fish Diseases*. 13: 255–268.
- Dellman, D. dan Brown, E. M. 1992. *Buku Teks Histologi Veteriner II*. Penerbit Universitas Indonesia: Jakarta.
- Direktorat Jenderal Perikanan Budidaya. 2018. *Subsektor Perikanan Budidaya Sepanjang Tahun 2017 Menunjukkan Kinerja Positif*. <https://kkp.go.id/djpb/artikel/3113-subsektor-perikanan-budidaya-sepanjang-tahun-2017-menunjukkan-kinerja-positif>. Diakses pada tanggal 28 Januari 2020.
- El-Salam, A., Ghaly, M. F., Baraka, D. M., Mahmoud, S. H., dan El-Makhzangy, A. A. E. M. (2017). Histopathological changes in diseased catfish (*Clarias gariepinus*) and treated by ciprofloxacin and clove extracts. *J Vet Med Allied Sci*. 1(1): 41-48.
- Farmer, J. J., Arduino, M. J. dan Brenner-Hickman, F. W. 2000. *The Prokariot Second edition*. Springer: Berlin.
- Ferdian, F., Maulina I. dan Rosidah. 2012. Analisis permintaan ikan lele dumbo (*Clarias gariepinus*) konsumsi di Kecamatan Losarang Kabupaten Indramayu. *Jurnal Perikanan dan Kelautan*. 3: 93–98.
- Firnanda, R., Sugito, Fakhurrazi dan Ambarwati, D. V. S. 2013. Isolasi *Aeromonas hydrophila* pada sisik ikan nila (*Oreochromis niloticus*) yang

- diberi tepung daun jalloh (*Salix tetrasperma* Robx). *Jurnal Medika Veterinaria*. 7(1): 22-24.
- Forest, V. J., Kang, Y. H., McClain, D. E., Robinson, D. H. dan Ramakrishnan, N. 1994. Oxidative stress apoptosis prevented by trolox. *Free Radical Biology and Medicine*. 16: 675-683.
- Hamid, N. H., Hassan, M. D., Sabri, M. M., Hasliza, A. H., Hamdan, R. H., Afifah, M.N. dan Fuad M. M. 2016. Studies on Pathogenicity Effect of *Aeromonas hydrophila* Infection in Juvenile Red Hybrid Tilapia *Oreochromis* sp. In *Proceedings of international seminar on livestock production and veterinary technology* (Hal. 532-539).
- Hartika, R., Mustahal dan Putra, A. N. 2014. Gambaran darah ikan nila (*Oreochromis niloticus*) dengan penambahan dosis prebiotik yang berbeda dalam pakan. *Jurnal Perikanan dan Kelautan*. 4: 259–267.
- Irianto, A. 2005. *Patologi Ikan Teleostei*. Gadjah Mada University Press: Yogyakarta.
- Jatnika, D., Sumantadinata, K. dan Pandjaitan N. H. 2014. Pengembangan usaha budidaya ikan lele (*Clarias* sp.) di lahan kering di Kabupaten Gunungkidul, Provinsi Daerah Istimewa Yogyakarta. *Jurnal Pengembangan Usaha Budidaya Ikan Lele*. 9(1): 96–105.
- Jun, J.W., Kim, J. H., Gomez, D. K., Choresca Jr, C. H., Han, J.E., Shin, S.P. dan Park, S. C. 2010. Occurrence of tetracycline-resistant *Aeromonas hydrophila* infection in Korean cyprinid loach (*Misgurnus anguillicaudatus*). *African Journal of Microbiology Research*, 4(9):849-855.
- Khairuman dan Khairul, A. 2002. *Budidaya Lele Dumbo Secara Intensif*. Agromedia Pustaka: Jakarta.
- Kordi, G. H. 2004. *Penanggulangan Hama dan Penyakit Ikan*. PT Rineka Cipta dan PT Bina Adiaksara: Jakarta.
- Kordi, G. H. 2010. *Budidaya Ikan Patin di Kolam Terpal*. Lily Publisher: Yogyakarta.
- Laili, U. 2007. *Pengaruh Pemberian Ekstrak Temulawak (*Curcuma xanthorrhiza* Roxb) Terhadap Prevalensi dan Kelulushidupan Ikan Mas (*Cyprinus carpio*) yang Diinfeksi Bakteri *Aeromonas hydrophila**. [Skripsi]. Universitas Negeri Malang: Malang.
- Laily, H., Farikhah dan Firmani, U. 2018. Analisis Histologis Ginjal, Hati dan Jantung Ikan Lele Afrika *Clarias gariepinus* yang Mengalami Anomali pada Sirip Pektoral. *Jurnal Perikanan Pantura*. 1(2):30-38
- Laith, A. R. dan Najiah, M. 2013. *Aeromonas hydrophila*: antimicrobial susceptibility and histopathology of isolates from diseased catfish, *Clarias gariepinus* (burchell). *J Aquae Res Development*. 5(1): 215.
- Lu, F. C. 1995. *Toksikologi Dasar Ed.2*. UI Press: Jakarta
- Lukistyowati, I. dan Kurniasih. 2012. Pelacakan Gen Aerolysin dari *Aeromonas hydrophila* pada Ikan Mas yang diberi Pakan Ekstrak Bawang Putih. *Jurnal Veteriner*. 13 (1) : 43-50.
- Macfarlane P. S., Reid, R. dan Callander, R. 2000. *Pathology Illustrated*. Churchill Livingstone: China.

- Maryadi, H. 2009. *Studi perkembangan gejala klinis dan patologi pada ikan kerapu macan (Epinephelus fuscoguttatus) yang diinfeksi dengan Streptococcus iniae*. [Tesis]. Institut Pertanian Bogor: Bogor.
- Mumford, S., Heidel, J., Smith, C., Morrison, J., MacConnell, B. dan Blazer, V. 2007. *Fish Histology and Histopathology*. US Fish and Wildlife Service: West Virginia
- Nabib, R. dan Pangaribuan, F. H. 1989. *Patologi dan Penyakit Ikan*. Institut Pertanian Bogor: Bogor
- Najiyati, S. 2003. *Memelihara Kolam Ikan Dumbo Di Kolam Taman*. Penebar Swadaya: Jakarta.
- Nasran, S., Ariyani, F. Dan Indriyati, N. 2003. Produksi kitinase dan kitin deasetilase dari *Vibrio harveyi*. *J. Pen. Perik. Indonesia*. 9(5):33–38.
- Pincus, D. H. 2014. *Microbial Identification Using The Biomerieux Vitek 2 System*. Hazelwood (USA): Biomerieux inc.
- Piska, R. S. dan Naik, S. J. K. 1992. *Fish Biology and Ecology (Fisheries)*. Osmania Univ: Hyderabad.
- Prince, S. A. dan Wilson, L. M. 2006. *Patofisiologi. Edisi VI*. EGC: Jakarta
- Roberts, R. J. 1993. *Bacterial Disease of Fish*. Blackwell Scientific Publication: London.
- Rosidah dan Wila, M. A. 2012. Potensi ekstrak daun jambu biji sebagai antibakterial untuk menanggulangi serangan bakteri *Aeromonas hydrophila* pada ikan gurame (*Osphronemus gourami* Lacepede). *Jurnal Akuatika*. 3(1): 19-27.
- Rosidah, R., Yunita, M. D., Nurruhwati, I. Dan Rizal, A. 2020. Histopathological changes in gold fish (*Carassius auratus* (Linnaeus, 1758)) infected by *Aeromonas hydrophila* bacteria with various densities. *World Scientific News*. 142:150-168.
- Roy, A., Singha, J. Dan Abraham, T. J. 2018. Histopathology of *Aeromonas caviae* Infection in Challenged Nile Tilapia *Oreochromis niloticus* (Linnaeus, 1758). *International Journal of Aquaculture*. 8 (20): 151-155
- Saanin, H. 1984. *Taksonomi dan Kunci Identifikasi Ikan I*. Binacipta: Jakarta.
- Safratilofa. 2017. Histopatologi hati dan ginjal ikan Patin (*Pangasionodon hypophthalmus*) yang diinjeksi bakteri *Aeromonas hydrophila*. *Jurnal Akuakultur Sungai dan Danau*. 2(2): 83-88.
- Saharia, P., Pokhrel, H., Kalita, B., Hussain I. A. dan Islam, S. 2018. Histopathological changes in Indian Major Carp, *Labeo rohita* (Hamilton), experimentally infected with *Aeromonas hydrophila* associated with hemorrhagic septicemia of Central Brahmaputra valley of Assam, India. *J. Entomol. Zool. Studies*. 6(5):06-11.
- Saparinto, C. 2009. *Budidaya Ikan di Kolam Terpal*. Penebar Swadaya: Bogor.
- Sarono, A, Nitimulyo, K. H., Leluno, I. Y. B., Widodo, Thaib, N., Haryani, E. B. S., Haryanto, Triyanto, Ustadi, Kusumahati, A. N., Novianti dan Setianingsih, S.W. 1993. *Hama dan Penyakit Ikan Karantina Golongan Bakteri*. Kerjasama Pusat Karantina Pertanian dan Fakultas Pertanian Jurusan Perikanan UGM: Yogyakarta
- Shetty, N., Hill, G. dan Ridgway, G. L. 1998. The Vitek Analyser For Routine Bacterial Identification And Susceptibility Testing: Protocols, Problems, And Pitfalls. *Clin Pathol*. 51:316-323

- Sukenda, Jamal, L., Wahjuningrum, D. dan Hasan, A. 2008. Penggunaan Kitosan Untuk Pencegahan Infeksi *Aeromonas hydrophila* pada Ikan Lele *Dumbo clarias sp.*. *Jurnal Akuakultur Indonesia*. 7 (2) : 159-169.
- Supardi, L. 2003. *Kiat Sukses Budidaya Lele di Lahan Sempit*. Agromedia Pustaka: Jakarta
- Supriyadi, H. T. 1981. Identifikasi dan Cara Penanggulangan Penyakit Bacterial pada Ikan Lele (*Clarias batrachus*). *Bull. Penel. Perik.* 1(3):447-454.
- Susanti, W., Indrawati, A. dan Pasaribu F. H. 2016. Kajian patogenisitas bakteri *Edwardsiella ictaluri* pada ikan patin *Pangasionodon hypophthalmus*. *Jurnal Akuakultur Indonesia*. 15(2):99-107.
- Suwarsito dan Mustafida, H. 2011. Diagnosa penyakit ikan menggunakan sistem pakar. *JUITA ISSN*. 1: 131-137.
- Wakita, K., Panigoro, N., Astuti, I., Bahnan, M. dan Salfira, P. 2007. *Teknik Dasar Histologi dan Atlas Dasar-Dasar Histologi Ikan*. Balai Budidaya Air Tawar: Jambi.
- Wijaya, S. 2002. Isolasi kitinase dari *Scleroderma columnare* dan *Trichoderma harzianum*. *J. Ilmu Dasar Biologi*, 3(1): 30–35.
- Yin, G., Ardo, L., Thompson, K. D., Adams, A., Jeney, Z. dan Jeney, G. 2010. Chinese Herbs (*Astragalus radix* and *Ganoderma Lucidum*) Enhance Immune Respons of carps, *Cyprinus carpio* and Protection Againts *Aeromonas hydrophila* . *Fish and Shellfish Immunology*. 26(1):140 -145.
- Yulita, I. 2002. *Efektivitas Bubuk Daun Jambu Biji (Psidium guajava), Daun Sirih (Piper betle) dan Daun Sambiloto (Andrographis paniculata) Untuk Pencegahan dan Pengobatan pada Ikan Lele Dumbo (Clarias sp.) yang Diidentifikasi dengan Bakteri Aeromonas hydrophila*. [Skripsi]. Institut Pertanian Bogor: Bogor.

## LAMPIRAN

### Lampiran 1. Tempat Pengambilan Sampel



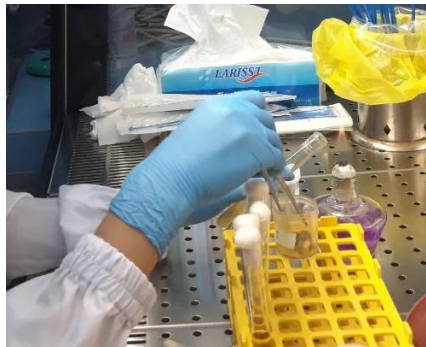
### Lampiran 2. Pemisahan Organ



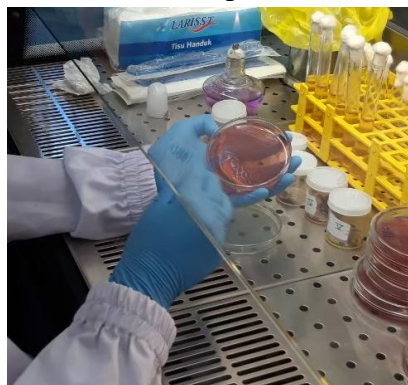


### Lampiran 3. Identifikasi *Aeromonas hydrophila*

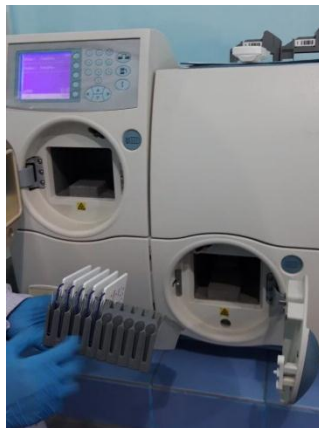
#### a. Penyuburan pada BHIB



#### b. Kultur pada MC



#### c. Identifikasi pada Vitek 2 Compact



#### Lampiran 4. Tahapan Persiapan dan Pembuatan Preparat Histologi

##### a. Tahap fiksasi



##### b. Tahap dehidrasi



##### c. Tahap clearing



##### d. Tahap infiltrating





e. Tahap embedding



f. Tahap pemotongan



g. Tahap pewarnaan





h. Tahap Pengamatan Preparat Histologi



**Lampiran 4. Tahapan Prosedur *Tissue Processor* dan Pewarnaan HE**

Tabel Prosedur *Tissue Processor*

<b>No.</b>	<b>Proses</b>	<b>Reagensia</b>	<b>Waktu</b>
1	Fiksasi	Buffer formalin 10%	3 hari
2	<i>End point</i>	Alkohol 70%	1 hari
3	Dehidrasi	Alkohol 70%	1 hari
4	Dehidrasi	Alkohol 80%	1 hari
5	Dehidrasi	Alkohol 90%	1 hari
6	Dehidrasi	Alkohol 95%	1 hari
7	Dehidrasi	Alkohol 100%	1 jam
8	Dehidrasi	Alkohol 100%	1 jam
9	<i>Clearing</i>	Xylol I	15 menit
10	<i>Clearing</i>	Xylol II	15 menit
11	<i>Infiltrating</i>	Paraffin Cair I	1 jam
12	<i>Infiltrating</i>	Paraffin Cair II	1 jam
Total waktu			196,5 jam

Tabel Prosedur Pewarnaan HE

No.	Reagensia	Waktu
1	Xylol I	15 menit
2	Xylol II	15 menit
3	Alkohol 100%	1 menit
4	Alkohol 100%	1 menit
5	Alkohol 95%	1 menit
6	Alkohol 90%	1 menit
7	Alkohol 80%	1 menit
8	Alkohol 70%	1 menit
9	Mayer's Haematoxylin	10 menit
10	Rendam dalam Tap Water I	1 menit
11	Rendam dalam Tap Water II	1 menit
12	Eosin	20 menit
13	Alkohol 70%	30 detik
14	Alkohol 80%	30 detik
15	Alkohol 90%	30 detik
16	Alkohol 95%	30 detik
17	Alkohol 100%	30 detik
18	Alkohol 100%	30 detik
19	Xylol I	15 menit
20	Xylol II	15 menit
	Total waktu	101 menit

## Lampiran 6. Hasil Uji Identifikasi *Aeromonas hydrophila*



**KEMENTERIAN KESEHATAN RI**  
**DIREKTORAT JENDERAL PELAYANAN KESEHATAN**  
**BALAI BESAR LABORATORIUM KESEHATAN MAKASSAR**

Jl. Perintis Kemerdekaan KM.11 Tamalanrea Makassar 90245




**HASIL PENELITIAN**  
**No. 20008325-20008329/LHU/BBLK-MKS/VI/2020**

Nama : **Andi Ananda Sekar Ayu**  
 Universitas : Universitas Hasanuddin  
 Fakultas/Jurusan : Fakultas Kedokteran/Kedokteran Hewan  
 Tanggal Penelitian : 4 - 11 Mei 2020  
 Judul Penelitian : Identifikasi Bakteri *Aeromonas hydrophila* serta Pengaruhnya terhadap Histopatologi Organ Ginjal, Insang, dan Hati pada Ikan Lele  
 Sampel : Isolat bakteri  
 Jumlah sampel : 5 (lima) sampel  
 Parameter : Kultur Mikroorganisme /Identifikasi Bakteri Aerob  
 Hasil Penelitian :

No	Kode sampel	Hasil Pewarnaan Gram	Hasil Identifikasi Mikroorganisme	Ket
1	Isolat I	Basil gram negatif	<i>Aeromonas caviae</i>	
2	Isolat II	Basil gram negatif	<i>Sphingomonas paucimobilis</i>	
3	Isolat III	Basil gram negatif	<i>Aeromonas hydrophila</i>	
4	Isolat IV	Basil gram negatif	<i>Aeromonas veronii</i>	
5	Isolat V	Basil gram negatif	<i>Aeromonas hydrophila</i>	

Makassar, 12 Juni 2020  
 Dokter Penanggung jawab

  
 dr. Hj. Andi Nurhayati  
 NIP. 196204151990102001



BBLK MAKASSAR

bioMérieux Customer:  
System #: 11530

Laboratory Report

Printed May 9, 2020 13:14 SGT  
Autoprint

Patient Name: Andi, Regita  
Isolate: I-1 (Approved)

Patient ID: 080520

Card Type: GN Bar Code: 2411103203509592 Testing Instrument: 000015F277A8 (11530)  
Setup Technologist: Laboratory Supervisor(LabSuper)

Bionumber: 1435713150500211

Organism Quantity: Selected Organism: **Aeromonas hydrophila/caviae**

<b>Comments:</b>	

Mcfarland: (0.50 - 0.63)

<b>Identification Information</b>	Card: GN	Lot Number: 2411103203	Expires: Dec 3, 2020 12:00 SGT
	Completed: May 9, 2020 13:14 SGT	Status: Final	Analysis Time: 3.58 hours
<b>Organism Origin</b>	VITEK 2		
<b>Selected Organism</b>	98% Probability <b>Aeromonas hydrophila/caviae</b>		Confidence: Excellent identification
	Bionumber: 1435713150500211		
<b>SRF Organism</b>			
<b>Analysis Organisms and Tests to Separate:</b>			
Aeromonas hydrophila/caviae			
Aeromonas caviae VP(1),			
Aeromonas hydrophila VP(99),			
<b>Analysis Messages:</b>			
<b>Contraindicating Typical Biopattern(s)</b>			
Aeromonas hydrophila/caviae H2S(14),			

Installed VITEK 2 Systems Version: 08.01  
MIC Interpretation Guideline:  
AES Parameter Set Name:

Therapeutic Interpretation Guideline:  
AES Parameter Last Modified:

BBLK MAKASSAR

bioMérieux Customer:  
System #: 11530

## Laboratory Report

Printed May 9, 2020 13:14 SGT  
Autoprint

Patient Name: Andi, Regita  
Isolate: I-1 (Approved)

Patient ID: 080520

Card Type: GN Bar Code: 2411103203509592 Testing Instrument: 000015F277A8 (11530)  
Setup Technologist: Laboratory Supervisor(LabSuper)

Bionumber: 1435713150500211

Organism Quantity:

Selected Organism: *Aeromonas hydrophila/caviae*

Biochemical Details																	
2	APPA	+	3	ADO	-	4	PyrA	-	5	IARL	-	7	dCEL	-	9	BGAL	+
10	H2S	+	11	BNAG	+	12	AGLTp	-	13	dGLU	+	14	GGT	-	15	OFF	+
17	BGLU	+	18	dMAL	+	19	dMAN	+	20	dMNE	+	21	BXYL	-	22	BAlap	-
23	ProA	+	26	LIP	+	27	PLE	-	29	TyrA	+	31	URE	-	32	dSOR	-
33	SAC	+	34	dTAG	-	35	dTRE	+	36	CIT	-	37	MNT	-	39	5KG	-
40	ILATk	+	41	AGLU	-	42	SUCT	+	43	NAGA	-	44	AGAL	-	45	PHOS	-
46	GlyA	-	47	ODC	-	48	LDC	-	53	IHISa	-	56	CMT	+	57	BGUR	-
58	O129R	+	59	GGAA	-	61	IMLTa	-	62	ELLM	+	64	ILATa	-			

Installed VITEK 2 Systems Version: 08.01  
MIC Interpretation Guideline:  
AES Parameter Set Name:

Therapeutic Interpretation Guideline:  
AES Parameter Last Modified:

BBLK MAKASSAR

bioMérieux Customer:  
System #: 11530

Laboratory Report

Printed May 9, 2020 16:09 SGT  
Autoprint

Patient Name: Andi, Regita  
Isolate: II-1 (Approved)

Patient ID: 080520

Card Type: GN Bar Code: 2411103203509591 Testing Instrument: 000015F277A8 (11530)  
Setup Technologist: Laboratory Supervisor(LabSuper)

Bionumber: 5001100300140011

Organism Quantity:

**Selected Organism: Spingomonas paucimobilis**

<b>Comments:</b>	

McFarland: (0.50 - 0.63)

<b>Identification Information</b>	<b>Card:</b> GN	<b>Lot Number:</b> 2411103203	<b>Expires:</b> Dec 3, 2020 12:00 SGT
	<b>Completed:</b> May 9, 2020 16:09 SGT	<b>Status:</b> Final	<b>Analysis Time:</b> 6.52 hours
<b>Organism Origin</b>	VITEK 2		
<b>Selected Organism</b>	89% Probability <b>Spingomonas paucimobilis</b> Bionumber: 5001100300140011 <b>Confidence:</b> Good identification		
<b>SRF Organism</b>			
<b>Analysis Organisms and Tests to Separate:</b>			
<b>Analysis Messages:</b>			
<b>Contraindicating Typical Biopattern(s)</b>			
Spingomonas paucimobilis PyrA(24),URE(1),O129R(1),			

<b>Biochemical Details</b>																	
2	APPA	+	3	ADO	-	4	PyrA	+	5	IARL	-	7	dCEL	-	9	BGAL	-
10	H2S	-	11	BNAG	-	12	AGLTp	-	13	dGLU	+	14	GGT	-	15	OFF	-
17	BGLU	+	18	dMAL	-	19	dMAN	-	20	dMNE	-	21	BXYL	-	22	BAlap	-
23	ProA	-	26	LIP	-	27	PLE	-	29	TyrA	+	31	URE	+	32	dSOR	-
33	SAC	-	34	dTAG	-	35	dTRE	-	36	CIT	-	37	MNT	-	39	5KG	-
40	ILATk	+	41	AGLU	(-)	42	SUCT	-	43	NAGA	-	44	AGAL	-	45	PHOS	+
46	GlyA	-	47	ODC	-	48	LDC	-	53	IHiSa	-	56	CMT	-	57	BGUR	-
58	O129R	+	59	GGAA	(-)	61	IMLTa	-	62	ELLM	+	64	ILATa	-			

Installed VITEK 2 Systems Version: 08.01  
MIC Interpretation Guideline:  
AES Parameter Set Name:

Therapeutic Interpretation Guideline:  
AES Parameter Last Modified:



BBLK MAKASSAR

bioMérieux Customer:  
System #: 11530

Laboratory Report

Printed May 9, 2020 13:15 SGT  
Autoprint

Patient Name: Andi, Regita  
Isolate: III-1 (Approved)

Patient ID: 080520

Card Type: GN Bar Code: 2411103203509589 Testing Instrument: 000015F277A8 (11530)  
Setup Technologist: Laboratory Supervisor(LabSuper)

Bionumber: 1435713150500211  
Organism Quantity:

**Selected Organism: Aeromonas hydrophila/caviae**

<b>Comments:</b>	

**Mcfarland: (0.50 - 0.63)**

<b>Identification Information</b>	Card: GN	Lot Number: 2411103203	Expires: Dec 3, 2020 12:00 SGT
	Completed: May 9, 2020 13:15 SGT	Status: Final	Analysis Time: 3.60 hours
Organism Origin	VITEK 2		
<b>Selected Organism</b>	98% Probability <b>Aeromonas hydrophila/caviae</b>		
	Bionumber: 1435713150500211	Confidence: Excellent identification	
<b>SRF Organism</b>			
<b>Analysis Organisms and Tests to Separate:</b>			
Aeromonas hydrophila/caviae			
Aeromonas caviae VP(1),			
<b>Aeromonas hydrophila</b> VP(99),			
Analysis Messages:			
<b>Contraindicating Typical Biopattern(s)</b>			
Aeromonas hydrophila/caviae H2S(14),			

Installed VITEK 2 Systems Version: 08.01  
MIC Interpretation Guideline:  
AES Parameter Set Name:

Therapeutic Interpretation Guideline:  
AES Parameter Last Modified:

BBLK MAKASSAR

bioMérieux Customer:  
System #: 11530

Laboratory Report

Printed May 9, 2020 13:15 SGT  
Autoprint

Patient Name: Andi, Regita  
Isolate: III-1 (Approved)

Patient ID: 080520

Card Type: GN Bar Code: 2411103203509589 Testing Instrument: 000015F277A8 (11530)  
Setup Technologist: Laboratory Supervisor(LabSuper)

Bionumber: 1435713150500211  
Organism Quantity:

**Selected Organism: Aeromonas hydrophila/caviae**

Biochemical Details																	
2	APPA	+	3	ADO	-	4	PyrA	-	5	IARL	-	7	dCEL	-	9	BGAL	+
10	H2S	+	11	BNAG	+	12	AGLTp	-	13	dGLU	+	14	GGT	-	15	OFF	+
17	BGLU	+	18	dMAL	+	19	dMAN	+	20	dMNE	+	21	BXYL	-	22	BAlap	-
23	ProA	+	26	LIP	+	27	PLE	-	29	TyrA	+	31	URE	-	32	dSOR	-
33	SAC	+	34	dTAG	-	35	dTRE	+	36	CIT	-	37	MNT	-	39	5KG	-
40	ILATk	+	41	AGLU	-	42	SUCT	+	43	NAGA	-	44	AGAL	-	45	PHOS	-
46	GlyA	-	47	ODC	-	48	LDC	-	53	lHISa	-	56	CMT	+	57	BGUR	-
58	O129R	+	59	GGAA	-	61	IMLTa	-	62	ELLM	+	64	ILATa	-			

Installed VITEK 2 Systems Version: 08.01  
MIC Interpretation Guideline:  
AES Parameter Set Name:

Therapeutic Interpretation Guideline:  
AES Parameter Last Modified:

BBLK MAKASSAR

bioMérieux Customer:  
System #: 11530

Laboratory Report

Printed May 9, 2020 13:44 SGT  
Autoprint

Patient Name: Andi, Regita  
Isolate: IV-1 (Approved)

Patient ID: 080520

Card Type: GN Bar Code: 2411103203509588 Testing Instrument: 000015F277A8 (11530)  
Setup Technologist: Laboratory Supervisor(LabSuper)

Bionumber: 1635717152526231

Organism Quantity:

**Selected Organism: Aeromonas veronii**

Comments:	

McFarland: (0.50 - 0.63)

Identification Information	Card: GN	Lot Number: 2411103203	Expires: Dec 3, 2020 12:00 SGT
	Completed: May 9, 2020 13:44 SGT	Status: Final	Analysis Time: 4.08 hours
Organism Origin	VITEK 2		
Selected Organism	87% Probability <b>Aeromonas veronii</b>		Confidence: Acceptable identification
	Bionumber: 1635717152526231		
SRF Organism			
Analysis Organisms and Tests to Separate:			
Analysis Messages:			
Contraindicating Typical Biopattern(s) Aeromonas veronii AGAL(3),ILATk(13),MNT(1),LDC(3),			

Biochemical Details

2	APPA	+	3	ADO	-	4	PyrA	-	5	IARL	-	7	dCEL	+	9	BGAL	+
10	H2S	(+)	11	BNAG	+	12	AGLTp	-	13	dGLU	+	14	GGT	-	15	OFF	+
17	BGLU	+	18	dMAL	+	19	dMAN	+	20	dMNE	+	21	BXYL	-	22	BAlap	-
23	ProA	+	26	LIP	+	27	PLE	+	29	TyrA	+	31	URE	-	32	dSOR	-
33	SAC	+	34	dTAG	-	35	dTRE	+	36	CIT	-	37	MNT	+	39	5KG	-
40	ILATk	+	41	AGLU	-	42	SUCT	+	43	NAGA	-	44	AGAL	+	45	PHOS	-
46	GlyA	-	47	ODC	+	48	LDC	+	53	IHISa	-	56	CMT	+	57	BGUR	-
58	O129R	+	59	GGAA	+	61	IMLTa	-	62	ELLM	+	64	ILATa	-			

Installed VITEK 2 Systems Version: 08.01  
MIC Interpretation Guideline:  
AES Parameter Set Name:

Therapeutic Interpretation Guideline:  
AES Parameter Last Modified:

BBLK MAKASSAR

bioMérieux Customer:  
System #: 11530

Laboratory Report

Printed May 9, 2020 13:01 SGT  
Autoprint

Patient Name: Andi, Regita  
Isolate: V-1 (Approved)

Patient ID: 080520

Card Type: GN Bar Code: 2411103203509587 Testing Instrument: 000015F277A8 (11530)  
Setup Technologist: Laboratory Supervisor(LabSuper)

Bionumber: 1435713150500211

Organism Quantity: Selected Organism: **Aeromonas hydrophila/caviae**

<b>Comments:</b>	

McFarland: (0.50 - 0.63)

<b>Identification Information</b>	Card: GN	Lot Number: 2411103203	Expires: Dec 3, 2020 12:00 SGT
	Completed: May 9, 2020 13:01 SGT	Status: Final	Analysis Time: 3.37 hours
<b>Organism Origin</b>	VITEK 2		
<b>Selected Organism</b>	98% Probability <b>Aeromonas hydrophila/caviae</b>		Confidence: Excellent identification
<b>SRF Organism</b>	Bionumber: 1435713150500211		
<b>Analysis Organisms and Tests to Separate:</b>			
Aeromonas hydrophila/caviae			
Aeromonas caviae VP(1),			
<b>Aeromonas hydrophila VP(99),</b>			
<b>Analysis Messages:</b>			
<b>Contraindicating Typical Biopattern(s)</b>			
Aeromonas hydrophila/caviae H2S(14),			

Installed VITEK 2 Systems Version: 08.01  
MIC Interpretation Guideline:  
AES Parameter Set Name:

Therapeutic Interpretation Guideline:  
AES Parameter Last Modified:

BBLK MAKASSAR

bioMérieux Customer:  
System #: 11530

## Laboratory Report

Printed May 9, 2020 13:01 SGT  
Autoprint

Patient Name: Andi, Regita  
Isolate: V-1 (Approved)

Patient ID: 080520

Card Type: GN Bar Code: 2411103203509587 Testing Instrument: 000015F277A8 (11530)  
Setup Technologist: Laboratory Supervisor(LabSuper)

Bionumber: 1435713150500211

Organism Quantity:

**Selected Organism: Aeromonas hydrophila/caviae**

Biochemical Details																	
2	APPA	+	3	ADO	-	4	PyrA	-	5	IARL	-	7	dCEL	-	9	BGAL	+
10	H2S	+	11	BNAG	+	12	AGLTp	-	13	dGLU	+	14	GGT	-	15	OFF	+
17	BGLU	+	18	dMAL	+	19	dMAN	+	20	dMNE	+	21	BXYL	-	22	BAlap	-
23	ProA	+	26	LIP	+	27	PLE	-	29	TyrA	+	31	URE	-	32	dSOR	-
33	SAC	+	34	dTAG	-	35	dTRE	+	36	CIT	-	37	MNT	-	39	5KG	-
40	ILATk	+	41	AGLU	-	42	SUCT	+	43	NAGA	-	44	AGAL	-	45	PHOS	-
46	GlyA	-	47	ODC	-	48	LDC	-	53	IHISa	-	56	CMT	+	57	BGUR	-
58	O129R	+	59	GGAA	-	61	IMLTa	-	62	ELLM	+	64	ILATa	-			

Installed VITEK 2 Systems Version: 08.01  
MIC Interpretation Guideline:  
AES Parameter Set Name:

Therapeutic Interpretation Guideline:  
AES Parameter Last Modified: