

DAFTAR PUSTAKA

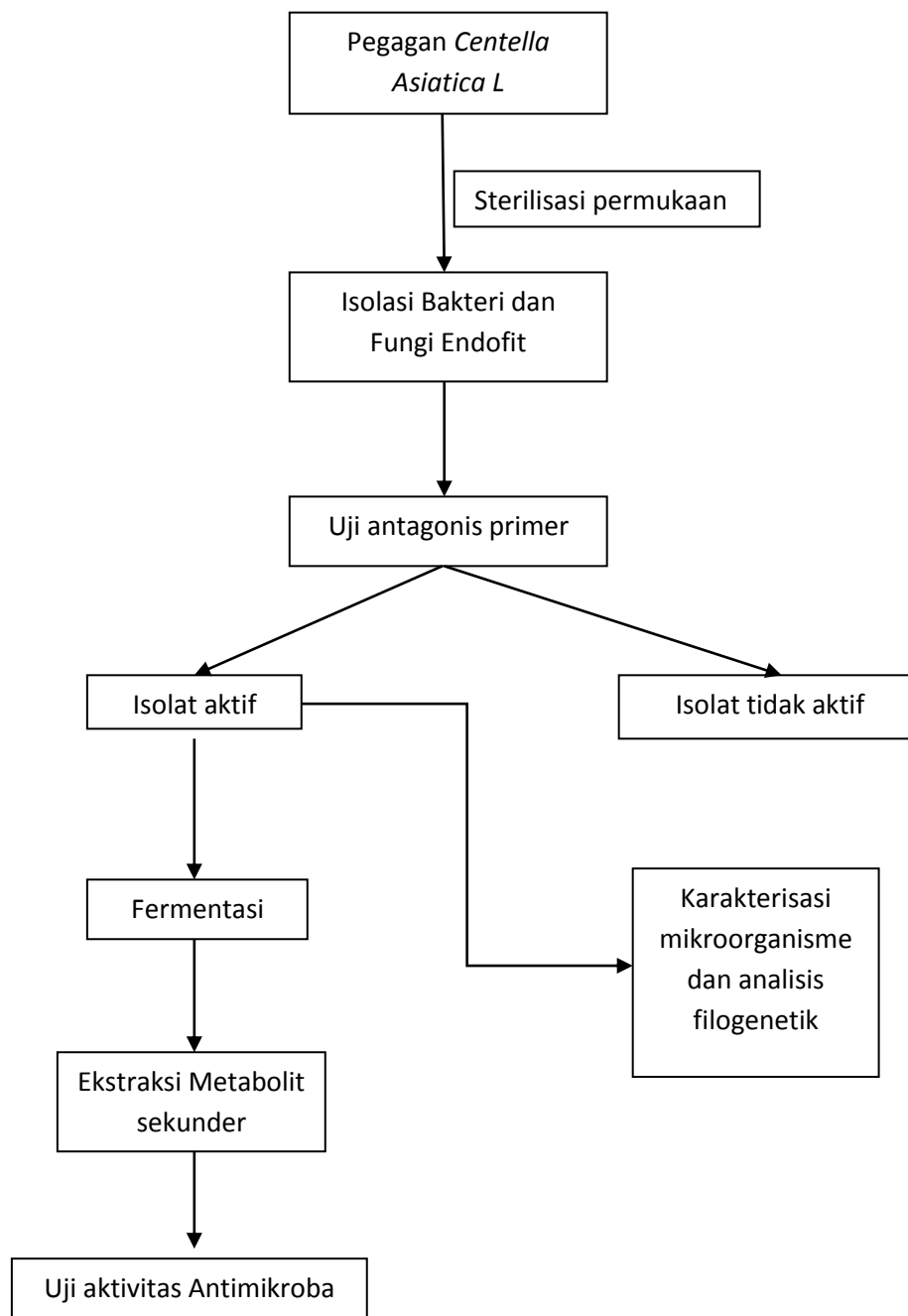
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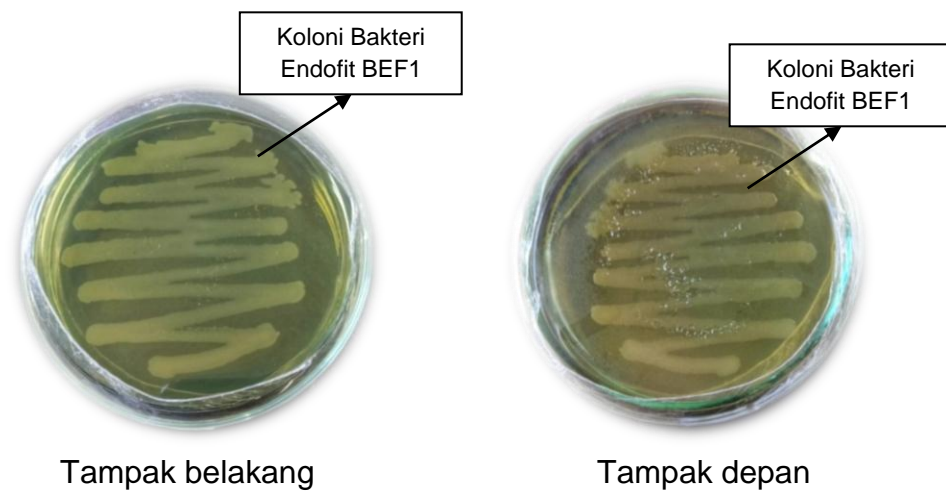
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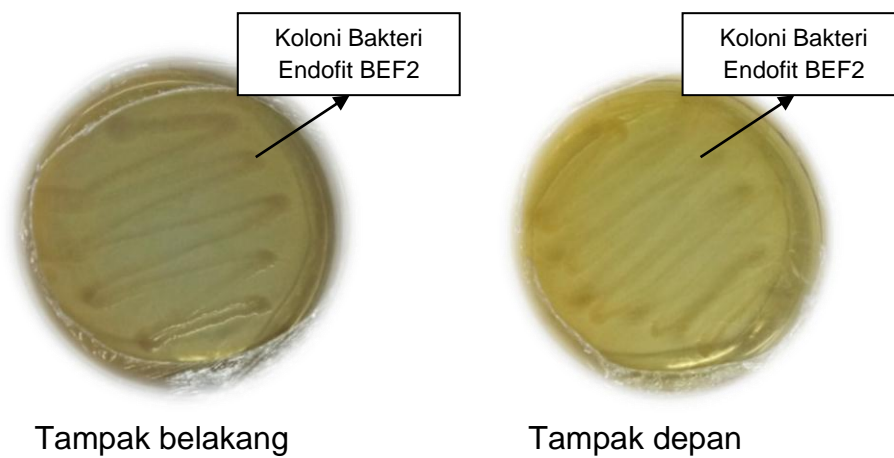
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SKEMA KERJA**Alur Penelitian Isolasi dan Karakterisasi Molekuler Mikroba Endofit
Tanaman Pegagan Sebagai Penghasil Antimikroba**

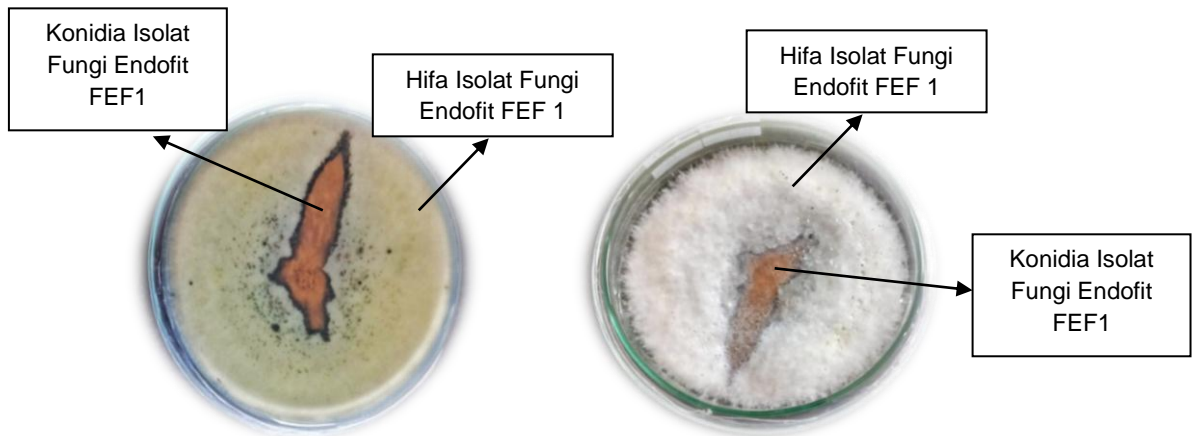
Lampiran 1. Gambar isolat mikroba endofit tanaman pegagan



Gambar 11. Isolat bakteri endofit BEF1 tanaman pegagan



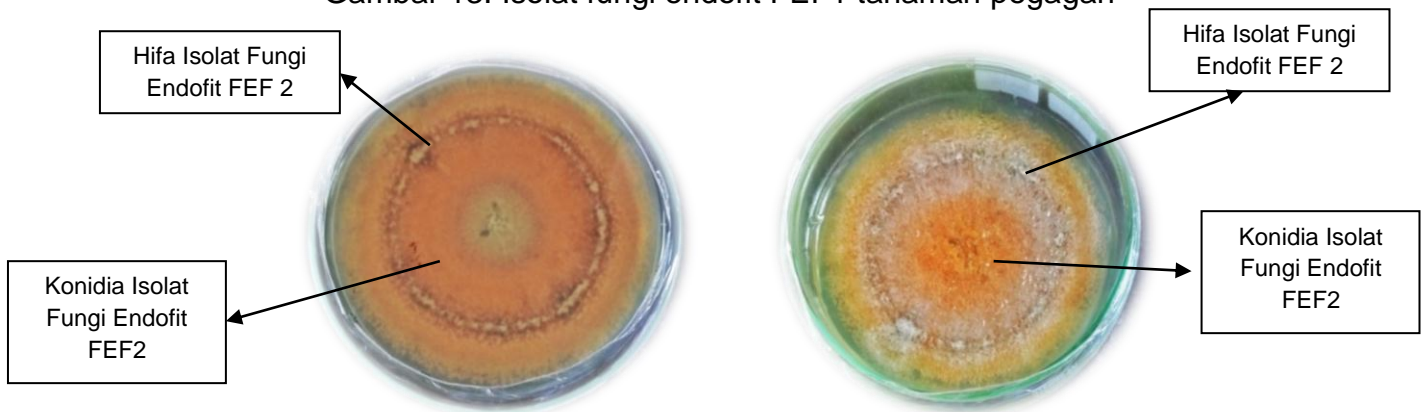
Gambar 12. Isolat bakteri endofit BEF2 tanaman pegagan



Tampak belakang

Tampak depan

Gambar 13. Isolat fungi endofit FEF1 tanaman pegagan



Tampak belakang

Tampak depan

Gambar 14. Isolat fungi endofit FEF2 tanaman pegagan



Tampak belakang

Tampak depan

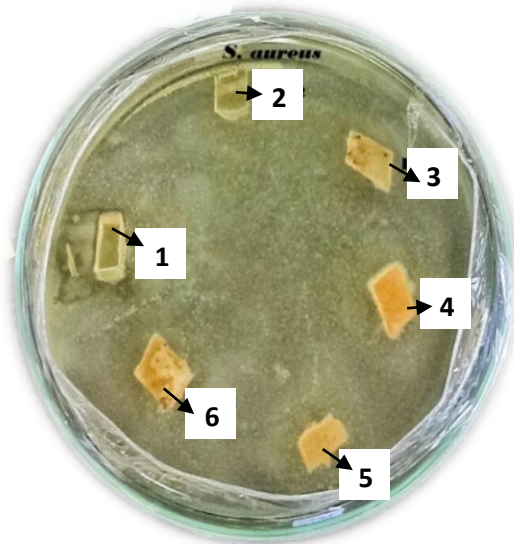
Gambar 15. Isolat fungi endofit FEF3 tanaman pegagan



Gambar 16. Isolat fungi endofit FEF4 tanaman pegagan

Lampiran 2. Gambar Uji Antagonis Isolat Mikroba Endofit Tanaman Pegagan

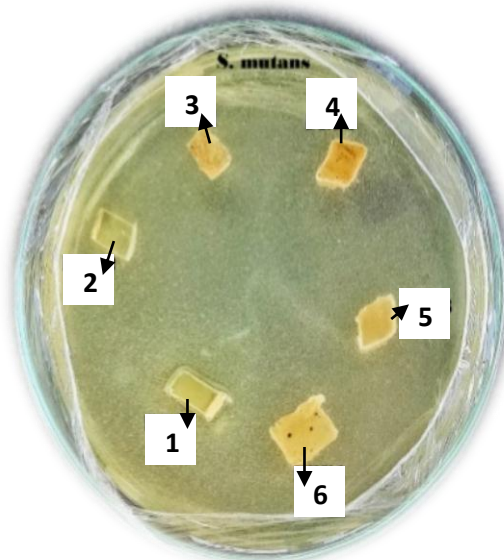
A. Gambar Uji Antagonis Isolat Mikroba Endofit Tanaman Pegagan Terhadap *Staphylococcus aureus*



Keterangan :

1. Isolat bakteri BEF1 terhadap *Staphylococcus aureus*
2. Isolat bakteri BEF2 terhadap *Staphylococcus aureus*
3. Isolat bakteri FEF1 terhadap *Staphylococcus aureus*
4. Isolat bakteri FEF2 terhadap *Staphylococcus aureus*
5. Isolat bakteri FEF3 terhadap *Staphylococcus aureus*
6. Isolat bakteri FEF4 terhadap *Staphylococcus aureus*

B. Gambar Uji Antagonis Isolat Mikroba Endofit Tanaman Pegagan Terhadap *Streptococcus mutans*

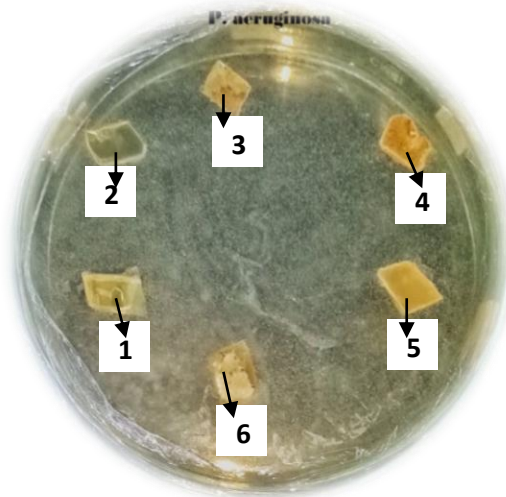


Keterangan :

1. Isolat bakteri BEF1 terhadap *Streptococcus mutans*
2. Isolat bakteri BEF2 terhadap *Streptococcus mutans*
3. Isolat bakteri FEF1 terhadap *Streptococcus mutans*
4. Isolat bakteri FEF2 terhadap *Streptococcus mutans*
5. Isolat bakteri FEF3 terhadap *Streptococcus mutans*
6. Isolat bakteri FEF4 terhadap *Streptococcus mutans*

C. Gambar Uji Antagonis Isolat Mikroba Endofit Tanaman Pegagan Terhadap *Pseudomonas aeruginosa*

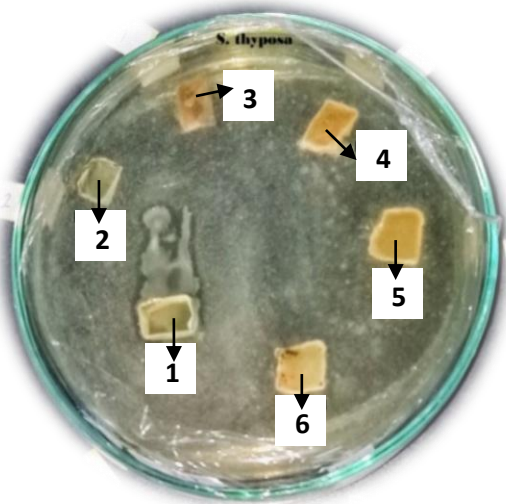
Keterangan :



1. Isolat bakteri BEF1 terhadap *Pseudomonas aeruginosa*
2. Isolat bakteri BEF2 terhadap *Pseudomonas aeruginosa*
3. Isolat bakteri FEF1 terhadap *Pseudomonas aeruginosa*
4. Isolat bakteri FEF2 terhadap *Pseudomonas aeruginosa*
5. Isolat bakteri FEF3 terhadap *Pseudomonas aeruginosa*
6. Isolat bakteri FEF4 terhadap *Pseudomonas aeruginosa*

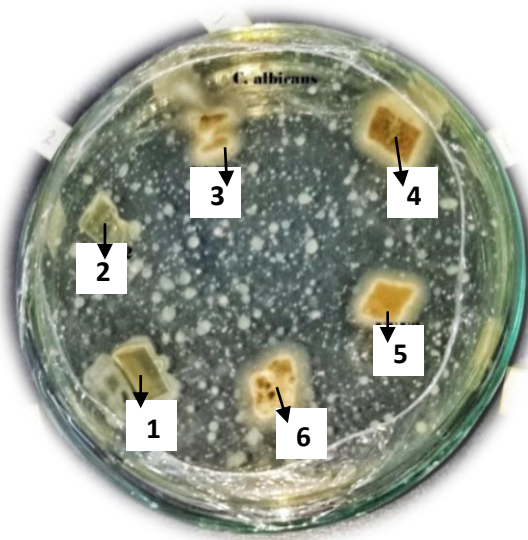
D. Gambar Uji Antagonis Isolat Mikroba Endofit Tanaman Pegagan Terhadap *Salmonella thyposa*

Keterangan :



1. Isolat bakteri BEF1 terhadap *Salmonella thyposa*
2. Isolat bakteri BEF2 terhadap *Salmonella thyposa*
3. Isolat bakteri FEF1 terhadap *Salmonella thyposa*
4. Isolat bakteri FEF2 terhadap *Salmonella thyposa*
5. Isolat bakteri FEF3 terhadap *Salmonella thyposa*
6. Isolat bakteri FEF4 terhadap *Salmonella thyposa*

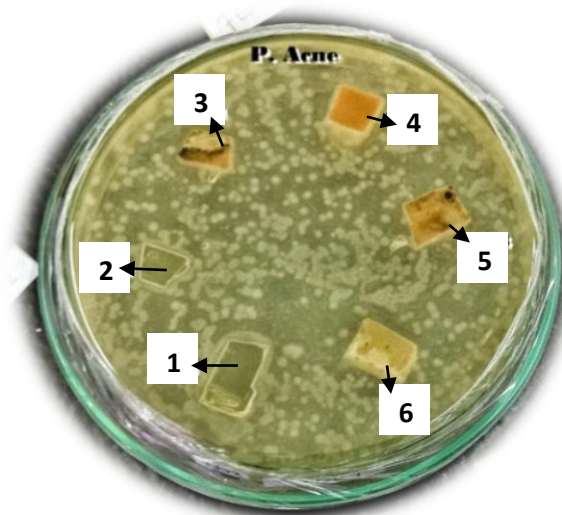
E. Gambar Uji Antagonis Isolat Mikroba Endofit Tanaman Pegagan Terhadap *Candida albicans*



Keterangan :

1. Isolat bakteri BEF1 terhadap *Candida albicans*
2. Isolat bakteri BEF2 terhadap *Candida albicans*
3. Isolat bakteri FEF1 terhadap *Candida albicans*
4. Isolat bakteri FEF2 terhadap *Candida albicans*
5. Isolat bakteri FEF3 terhadap *Candida albicans*
6. Isolat bakteri FEF4 terhadap *Candida albicans*

F. Gambar Uji Antagonis Isolat Mikroba Endofit Tanaman Pegagan Terhadap *Propionibacterium acnes*



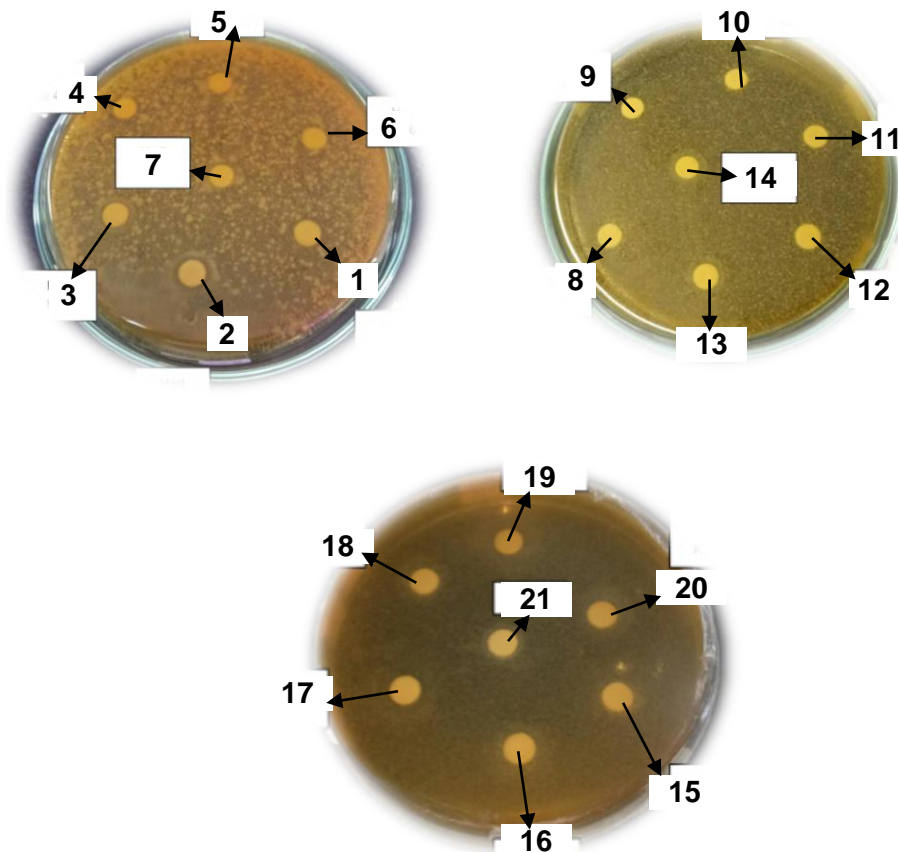
Keterangan :

1. Isolat bakteri BEF1 terhadap *Propionibacterium acnes*
2. Isolat bakteri BEF2 terhadap *Propionibacterium acnes*
3. Isolat bakteri FEF1 terhadap *Propionibacterium acnes*
4. Isolat bakteri FEF2 terhadap *Propionibacterium acnes*
5. Isolat bakteri FEF3 terhadap *Propionibacterium acnes*
6. Isolat bakteri FEF4 terhadap *Propionibacterium acnes*

Lampiran 3. Uji aktivitas antimikroba cairan hasil fermentasi isolat bakteri endofit BEF1

Hari fermentasi	Diameter hambatan terhadap mikroba patogen (mm)		
	<i>P.acne</i>	<i>S.thyposa</i>	<i>C.albican</i>
1	6.3	8.9	0
2	8.6	13.7	0
4	7.6	9.6	0
5	6.2	7.1	0
6	6.1	7.3	0
7	6.1	6.9	0
8	6.8	7.4	0
9	5.8	5.7	0
10	5.5	5.5	0
11	5.7	5.6	0
12	5.7	5.9	0
13	5.9	5.4	0
14	5.6	5.3	0
15	5.5	5.5	0
16	5.7	16.3	0
17	9.3	5.7	0
18	5.6	10.4	0
20	5.4	6.3	0
21	5.5	5.4	0

Lampiran 4. Gambar uji aktivitas antimikroba cairan hasil fermentasi isolat bakteri endofit BEF1 terhadap *Propionibacterium acnes*

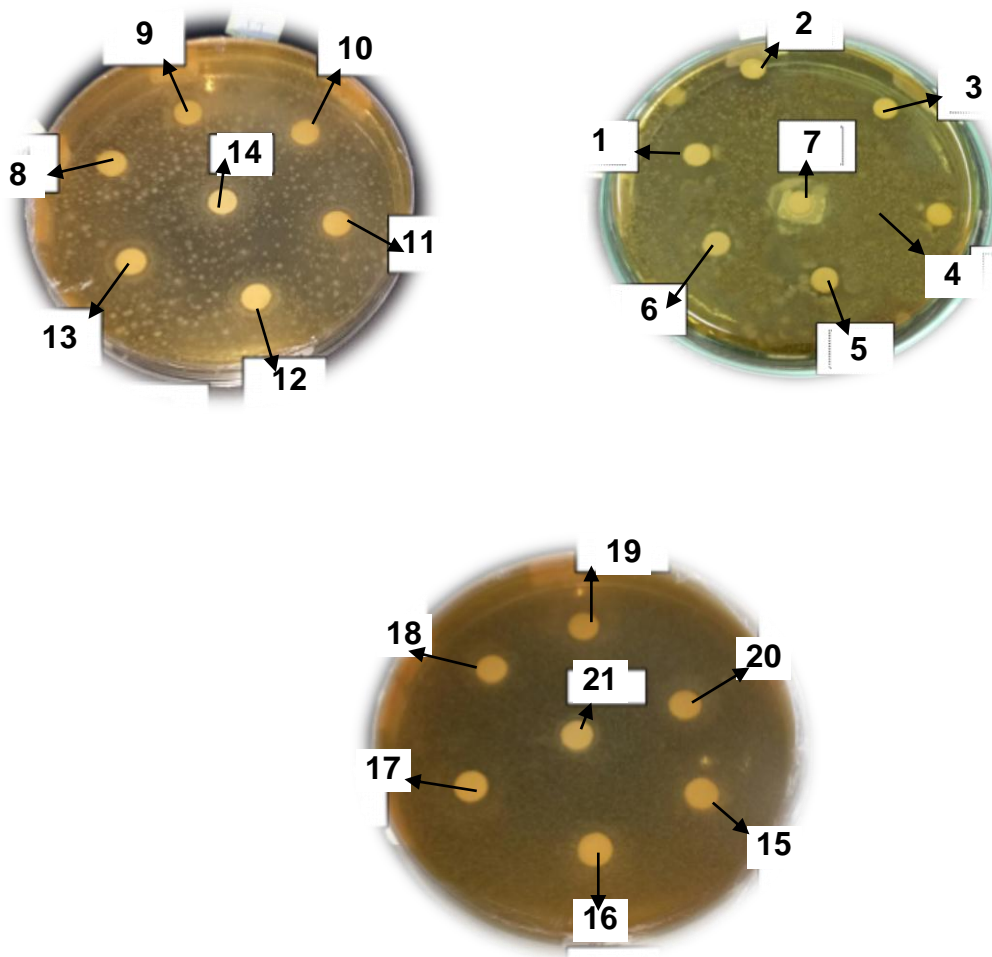


Keterangan :

1. Hasil fermentasi isolat bakteri endofit BEF1 hari ke 1 terhadap *Propionibacterium acnes*
2. Hasil fermentasi isolat bakteri endofit BEF1 hari ke 2 terhadap *Propionibacterium acnes*
3. Hasil fermentasi isolat bakteri endofit BEF1 hari ke 3 terhadap *Propionibacterium acnes*
4. Hasil fermentasi isolat bakteri endofit BEF1 hari ke 4 terhadap *Propionibacterium acnes*
5. Hasil fermentasi isolat bakteri endofit BEF1 hari ke 5 terhadap *Propionibacterium acnes*
6. Hasil fermentasi isolat bakteri endofit BEF1 hari ke 6 terhadap *Propionibacterium acnes*
7. Hasil fermentasi isolat bakteri endofit BEF1 hari ke 7 terhadap *Propionibacterium acnes*

8. Hasil fermentasi isolat bakteri endofit BEF1 hari ke 8 terhadap *Propionibacterium acnes*
9. Hasil fermentasi isolat bakteri endofit BEF1 hari ke 9 terhadap *Propionibacterium acnes*
10. Hasil fermentasi isolat bakteri endofit BEF1 hari ke 10 terhadap *Propionibacterium acnes*
11. Hasil fermentasi isolat bakteri endofit BEF1 hari ke 11 terhadap *Propionibacterium acnes*
12. Hasil fermentasi isolat bakteri endofit BEF1 hari ke 12 terhadap *Propionibacterium acnes*
13. Hasil fermentasi isolat bakteri endofit BEF1 hari ke 13 terhadap *Propionibacterium acnes*
14. Hasil fermentasi isolat bakteri endofit BEF1 hari ke 14 terhadap *Propionibacterium acnes*
15. Hasil fermentasi isolat bakteri endofit BEF1 hari ke 15 terhadap *Propionibacterium acnes*
16. Hasil fermentasi isolat bakteri endofit BEF1 hari ke 16 terhadap *Propionibacterium acnes*
17. Hasil fermentasi isolat bakteri endofit BEF1 hari ke 17 terhadap *Propionibacterium acnes*
18. Hasil fermentasi isolat bakteri endofit BEF1 hari ke 18 terhadap *Propionibacterium acnes*
19. Hasil fermentasi isolat bakteri endofit BEF1 hari ke 19 terhadap *Propionibacterium acnes*
20. Hasil fermentasi isolat bakteri endofit BEF1 hari ke 20 terhadap *Propionibacterium acnes*
21. Hasil fermentasi isolat bakteri endofit BEF1 hari ke 21 terhadap *Propionibacterium acnes*

Lampiran 5. Gambar uji aktivitas antimikroba cairan hasil fermentasi isolat bakteri endofit BEF1 terhadap *Salmonella thyposa*

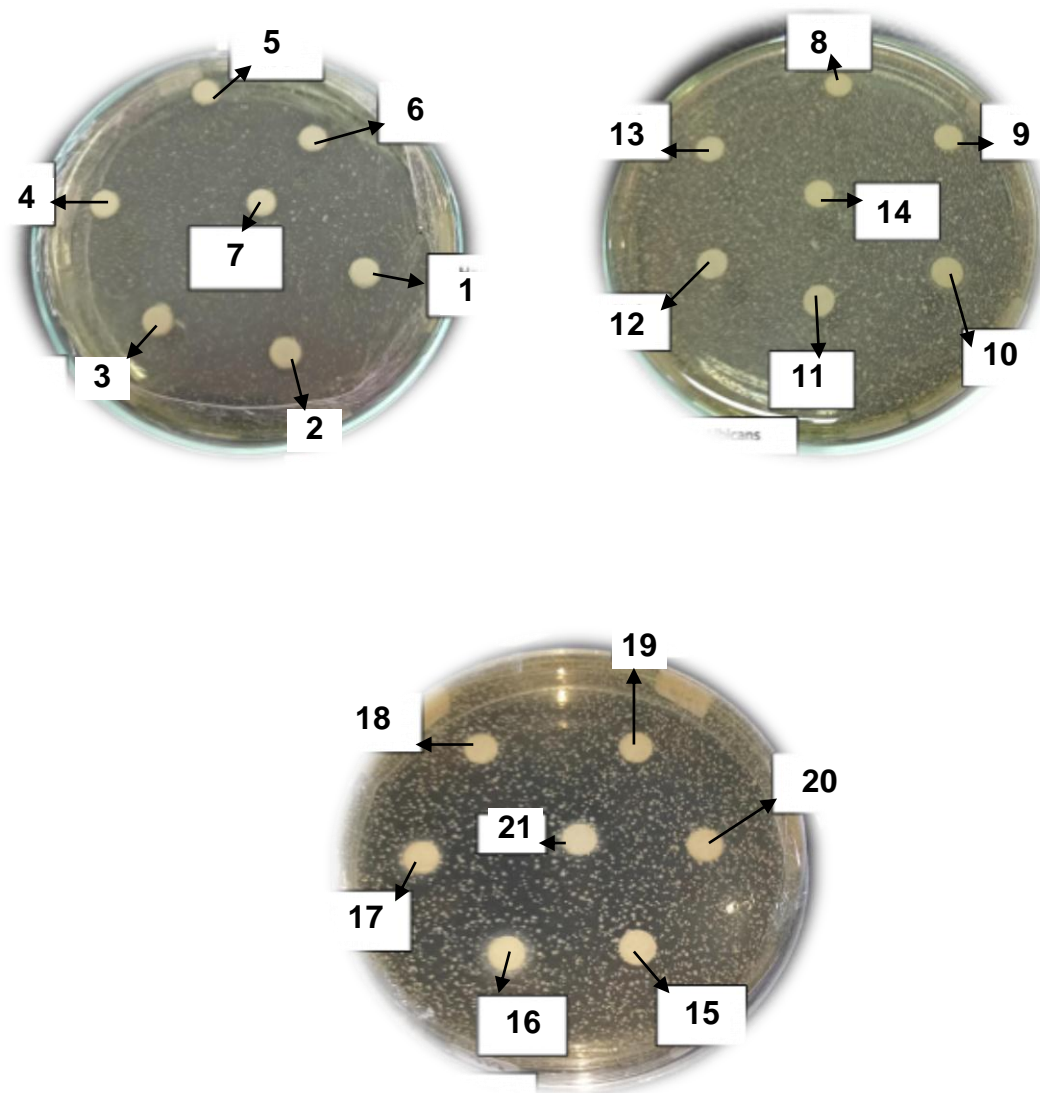


Keterangan :

1. Hasil fermentasi isolat bakteri endofit BEF1 hari ke 1 terhadap *Salmonella thyposa*
2. Hasil fermentasi isolat bakteri endofit BEF1 hari ke 2 terhadap *Salmonella thyposa*
3. Hasil fermentasi isolat bakteri endofit BEF1 hari ke 3 terhadap *Salmonella thyposa*
4. Hasil fermentasi isolat bakteri endofit BEF1 hari ke 4 terhadap *Salmonella thyposa*
5. Hasil fermentasi isolat bakteri endofit BEF1 hari ke 5 terhadap *Salmonella thyposa*

6. Hasil fermentasi isolat bakteri endofit BEF1 hari ke 6 terhadap *Salmonella thyposa*
7. Hasil fermentasi isolat bakteri endofit BEF1 hari ke 7 terhadap *Salmonella thyposa*
8. Hasil fermentasi isolat bakteri endofit BEF1 hari ke 8 terhadap *Salmonella thyposa*
9. Hasil fermentasi isolat bakteri endofit BEF1 hari ke 9 terhadap *Salmonella thyposa*
10. Hasil fermentasi isolat bakteri endofit BEF1 hari ke 10 terhadap *Salmonella thyposa*
11. Hasil fermentasi isolat bakteri endofit BEF1 hari ke 11 terhadap *Salmonella thyposa*
12. Hasil fermentasi isolat bakteri endofit BEF1 hari ke 12 terhadap *Salmonella thyposa*
13. Hasil fermentasi isolat bakteri endofit BEF1 hari ke 13 terhadap *Salmonella thyposa*
14. Hasil fermentasi isolat bakteri endofit BEF1 hari ke 14 terhadap *Salmonella thyposa*
15. Hasil fermentasi isolat bakteri endofit BEF1 hari ke 15 terhadap *Salmonella thyposa*
16. Hasil fermentasi isolat bakteri endofit BEF1 hari ke 16 terhadap *Salmonella thyposa*
17. Hasil fermentasi isolat bakteri endofit BEF1 hari ke 17 terhadap *Salmonella thyposa*
18. Hasil fermentasi isolat bakteri endofit BEF1 hari ke 18 terhadap *Salmonella thyposa*
19. Hasil fermentasi isolat bakteri endofit BEF1 hari ke 19 terhadap *Salmonella thyposa*
20. Hasil fermentasi isolat bakteri endofit BEF1 hari ke 20 terhadap *Salmonella thyposa*
21. Hasil fermentasi isolat bakteri endofit BEF1 hari ke 21 terhadap *Salmonella thyposa*

Lampiran 5. Gambar uji aktivitas antimikroba cairan hasil fermentasi isolat bakteri endofit BEF1 terhadap *Candida albicans*



Keterangan :

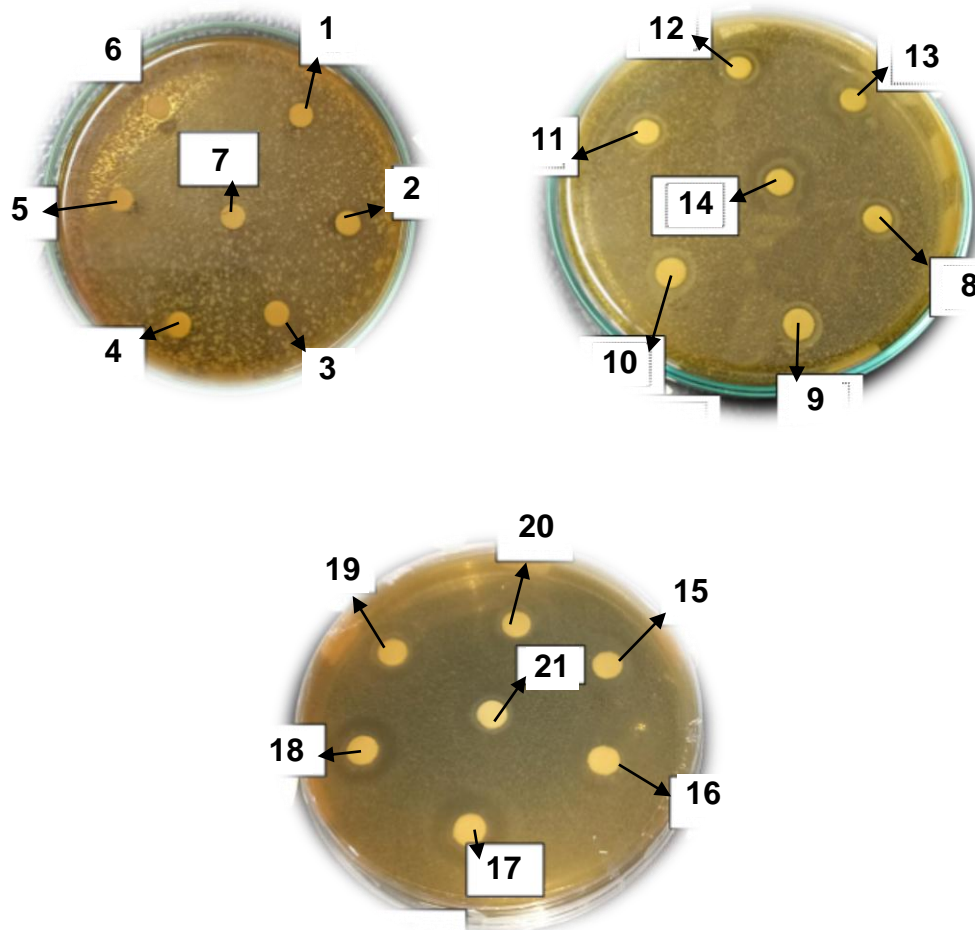
1. Hasil fermentasi isolat bakteri endofit BEF1 hari ke 1 terhadap *Candida albicans*
2. Hasil fermentasi isolat bakteri endofit BEF1 hari ke 2 terhadap *Candida albicans*
3. Hasil fermentasi isolat bakteri endofit BEF1 hari ke 3 terhadap *Candida albicans*
4. Hasil fermentasi isolat bakteri endofit BEF1 hari ke 4 terhadap *Candida albicans*

5. Hasil fermentasi isolat bakteri endofit BEF1 hari ke 5 terhadap *Candida albicans*
6. Hasil fermentasi isolat bakteri endofit BEF1 hari ke 6 terhadap *Candida albicans*
7. Hasil fermentasi isolat bakteri endofit BEF1 hari ke 7 terhadap *Candida albicans*
8. Hasil fermentasi isolat bakteri endofit BEF1 hari ke 8 terhadap *Candida albicans*
9. Hasil fermentasi isolat bakteri endofit BEF1 hari ke 9 terhadap *Candida albicans*
10. Hasil fermentasi isolat bakteri endofit BEF1 hari ke 10 terhadap *Candida albicans*
11. Hasil fermentasi isolat bakteri endofit BEF1 hari ke 11 terhadap *Candida albicans*
12. Hasil fermentasi isolat bakteri endofit BEF1 hari ke 12 terhadap *Candida albicans*
13. Hasil fermentasi isolat bakteri endofit BEF1 hari ke 13 terhadap *Candida albicans*
14. Hasil fermentasi isolat bakteri endofit BEF1 hari ke 14 terhadap *Candida albicans*
15. Hasil fermentasi isolat bakteri endofit BEF1 hari ke 15 terhadap *Candida albicans*
16. Hasil fermentasi isolat bakteri endofit BEF1 hari ke 16 terhadap *Candida albicans*
17. Hasil fermentasi isolat bakteri endofit BEF1 hari ke 17 terhadap *Candida albicans*
18. Hasil fermentasi isolat bakteri endofit BEF1 hari ke 18 terhadap *Candida albicans*
19. Hasil fermentasi isolat bakteri endofit BEF1 hari ke 19 terhadap *Candida albicans*
20. Hasil fermentasi isolat bakteri endofit BEF1 hari ke 20 terhadap *Candida albicans*
21. Hasil fermentasi isolat bakteri endofit BEF1 hari ke 21 terhadap *Candida albicans*

Lampiran 6. Hasil uji aktivitas antimikroba cairan hasil fermentasi isolat fungi endofit FEF2

Hari fermentasi	Diameter hambatan terhadap mikroba patogen (mm)		
	<i>P. acne</i>	<i>S.thyposa</i>	<i>C.albican</i>
1	6.6	7.4	0
2	6.5	7.8	0
3	6.9	8	0
4	6.8	7.5	0
5	8.9	8.1	0
6	6.9	9.5	0
7	6.7	12.3	0
8	7.6	13.4	0
9	7.3	10.4	0
10	7.5	11.3	0
11	8	11.6	0
12	7.9	22.7	0
13	8.1	20.6	0
14	9.7	20.9	0
15	5.3	9.7	0
16	5.7	9.3	0
17	6.3	8.8	0
18	5.6	9.1	0
19	5.7	9.2	0
20	5.5	9	0
21	5.5	8.9	0

Lampiran 7. Gambar uji aktivitas antimikroba cairan hasil fermentasi isolat fungi endofit FEF2 terhadap *Propionibacterium acnes*

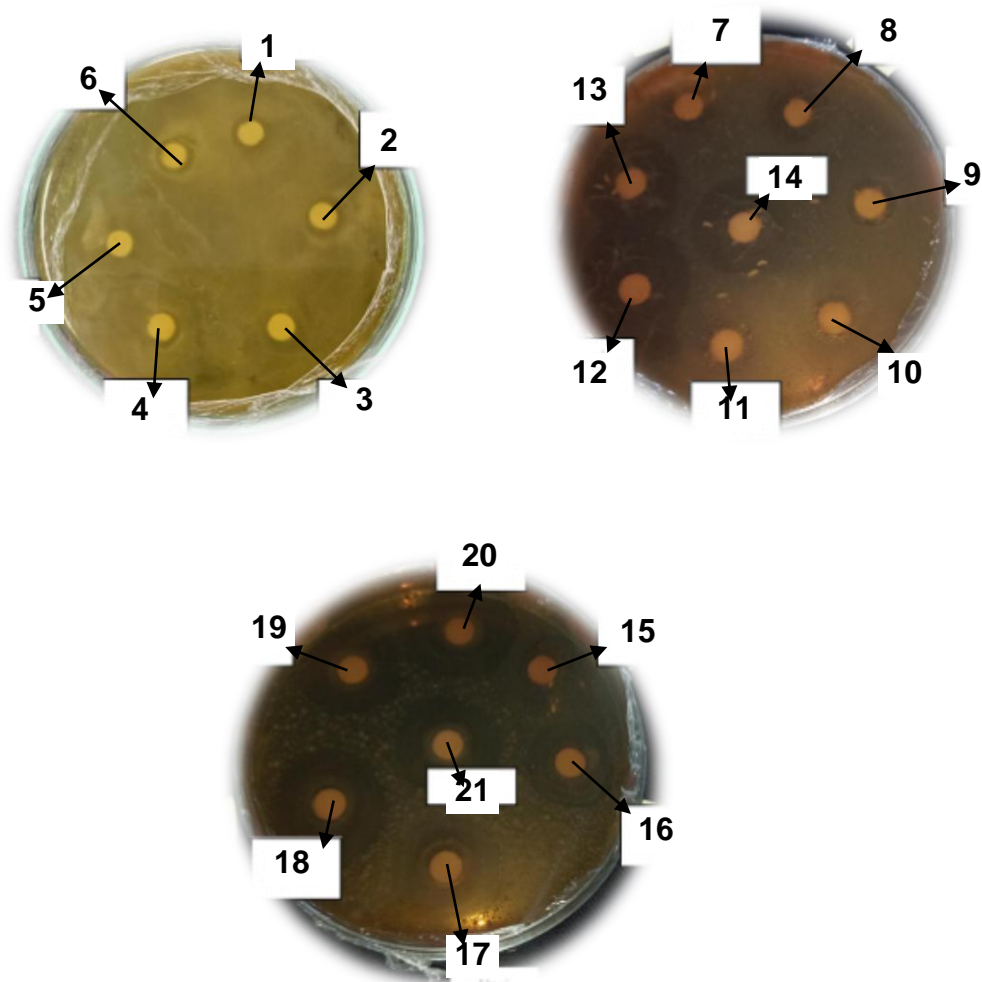


Keterangan :

1. Hasil fermentasi isolat fungi endofit FEF2 hari ke 1 terhadap *Propionibacterium acnes*
2. Hasil fermentasi isolat fungi endofit FEF2 hari ke 2 terhadap *Propionibacterium acnes*
3. Hasil fermentasi isolat fungi endofit FEF2 hari ke 3 terhadap *Propionibacterium acnes*
4. Hasil fermentasi isolat fungi endofit FEF2 hari ke 4 terhadap *Propionibacterium acnes*
5. Hasil fermentasi isolat fungi endofit FEF2 hari ke 5 terhadap *Propionibacterium acnes*
6. Hasil fermentasi isolat fungi endofit FEF2 hari ke 6 terhadap *Propionibacterium acnes*

7. Hasil fermentasi isolat fungi endofit FEF2 hari ke 7 terhadap *Propionibacterium acnes*
8. Hasil fermentasi isolat fungi endofit FEF2 hari ke 8 terhadap *Propionibacterium acnes*
9. Hasil fermentasi isolat fungi endofit FEF2 hari ke 9 terhadap *Propionibacterium acnes*
10. Hasil fermentasi isolat fungi endofit FEF2 hari ke 10 terhadap *Propionibacterium acnes*
11. Hasil fermentasi isolat fungi endofit FEF2 hari ke 11 terhadap *Propionibacterium acnes*
12. Hasil fermentasi isolat fungi endofit FEF2 hari ke 12 terhadap *Propionibacterium acnes*
13. Hasil fermentasi isolat fungi endofit FEF2 hari ke 13 terhadap *Propionibacterium acnes*
14. Hasil fermentasi isolat fungi endofit FEF2 hari ke 14 terhadap *Propionibacterium acnes*
15. Hasil fermentasi isolat fungi endofit FEF2 hari ke 15 terhadap *Propionibacterium acnes*
16. Hasil fermentasi isolat fungi endofit FEF2 hari ke 16 terhadap *Propionibacterium acnes*
17. Hasil fermentasi isolat fungi endofit FEF2 hari ke 17 terhadap *Propionibacterium acnes*
18. Hasil fermentasi isolat fungi endofit FEF2 hari ke 18 terhadap *Propionibacterium acnes*
19. Hasil fermentasi isolat fungi endofit FEF2 hari ke 19 terhadap *Propionibacterium acnes*
20. Hasil fermentasi isolat fungi endofit FEF2 hari ke 20 terhadap *Propionibacterium acnes*
21. Hasil fermentasi isolat fungi endofit FEF2 hari ke 21 terhadap *Propionibacterium acnes*

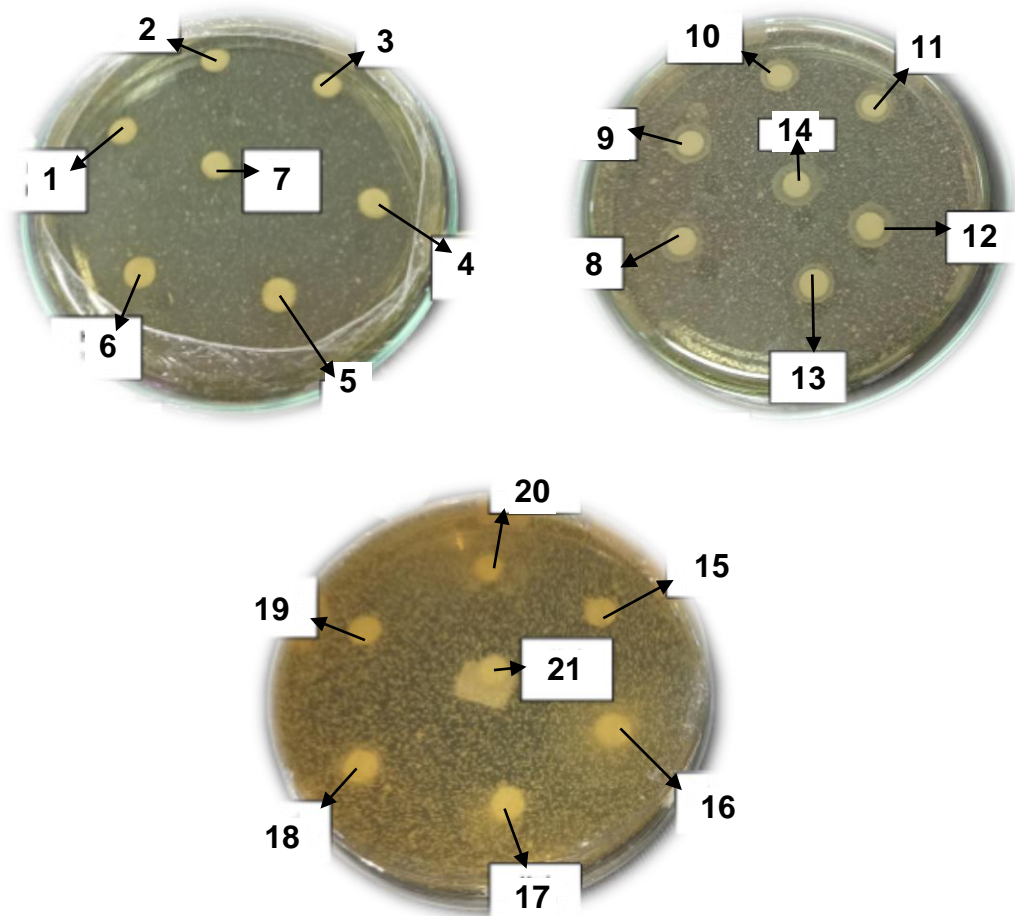
Lampiran 8. Gambar uji aktivitas antimikroba cairan hasil fermentasi isolat fungi endofit FEF2 terhadap *Salmonella thyposa*



Keterangan :

1. Hasil fermentasi isolat fungi endofit FEF2 hari ke 1 terhadap *Salmonella thyposa*
2. Hasil fermentasi isolat fungi endofit FEF2 hari ke 2 terhadap *Salmonella thyposa*
3. Hasil fermentasi isolat fungi endofit FEF2 hari ke 3 terhadap *Salmonella thyposa*
4. Hasil fermentasi isolat fungi endofit FEF2 hari ke 4 terhadap *Salmonella thyposa*
5. Hasil fermentasi isolat fungi endofit FEF2 hari ke 5 terhadap *Salmonella thyposa*

6. Hasil fermentasi isolat fungi endofit FEF2 hari ke 6 terhadap *Salmonella thyposa*
7. Hasil fermentasi isolat fungi endofit FEF2 hari ke 7 terhadap *Salmonella thyposa*
8. Hasil fermentasi isolat fungi endofit FEF2 hari ke 8 terhadap *Salmonella thyposa*
9. Hasil fermentasi isolat fungi endofit FEF2 hari ke 9 terhadap *Salmonella thyposa*
10. Hasil fermentasi isolat fungi endofit FEF2 hari ke 10 terhadap *Salmonella thyposa*
11. Hasil fermentasi isolat fungi endofit FEF2 hari ke 11 terhadap *Salmonella thyposa*
12. Hasil fermentasi isolat fungi endofit FEF2 hari ke 12 terhadap *Salmonella thyposa*
13. Hasil fermentasi isolat fungi endofit FEF2 hari ke 13 terhadap *Salmonella thyposa*
14. Hasil fermentasi isolat fungi endofit FEF2 hari ke 14 terhadap *Salmonella thyposa*
15. Hasil fermentasi isolat fungi endofit FEF2 hari ke 15 terhadap *Salmonella thyposa*
16. Hasil fermentasi isolat fungi endofit FEF2 hari ke 16 terhadap *Salmonella thyposa*
17. Hasil fermentasi isolat fungi endofit FEF2 hari ke 17 terhadap *Salmonella thyposa*
18. Hasil fermentasi isolat fungi endofit FEF2 hari ke 18 terhadap *Salmonella thyposa*
19. Hasil fermentasi isolat fungi endofit FEF2 hari ke 19 terhadap *Salmonella thyposa*
20. Hasil fermentasi isolat fungi endofit FEF2 hari ke 20 terhadap *Salmonella thyposa*
21. Hasil fermentasi isolat fungi endofit FEF2 hari ke 21 terhadap *Salmonella thyposa*



Keterangan :

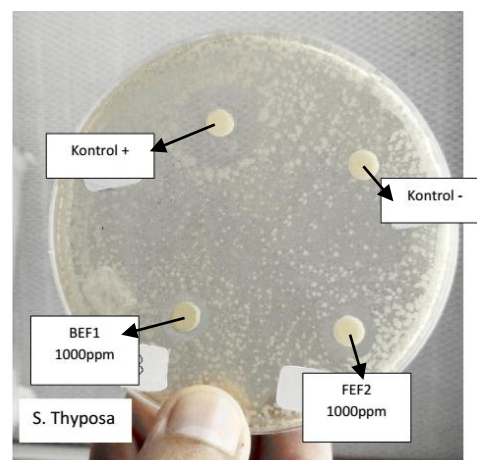
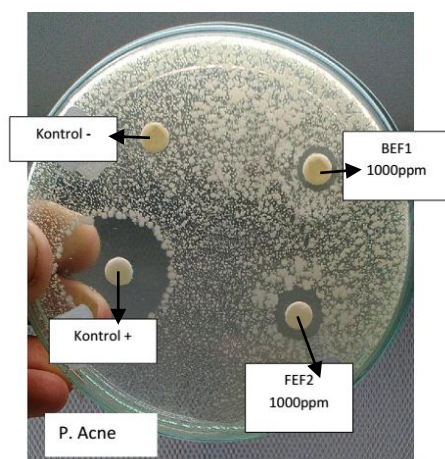
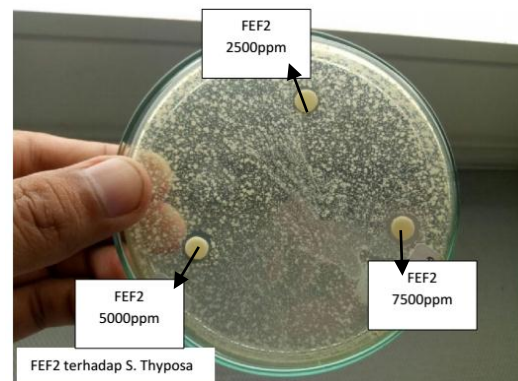
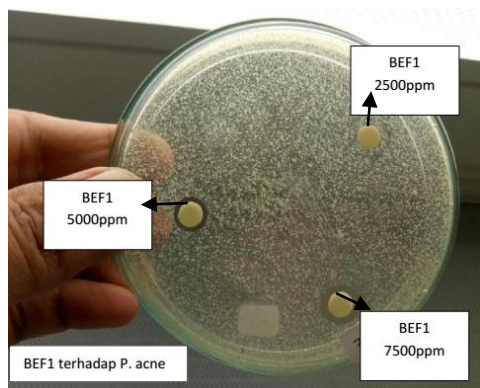
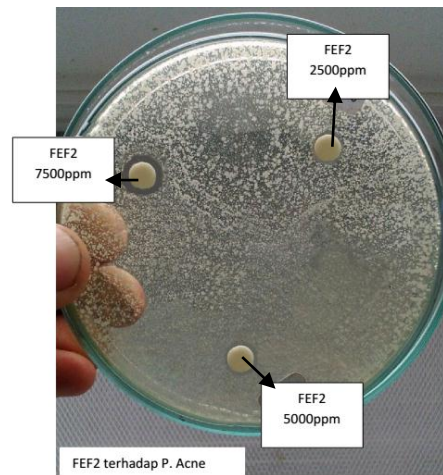
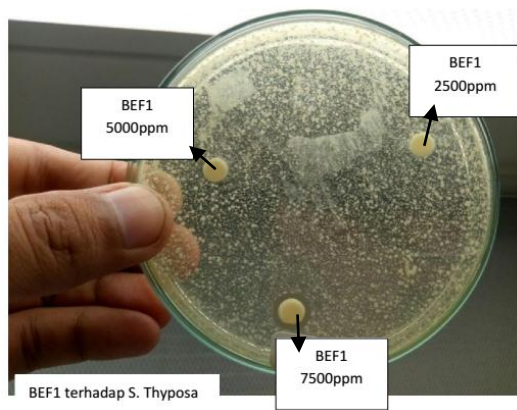
1. Hasil fermentasi isolat fungi endofit FEF2 hari ke 1 terhadap *Candida albicans*
2. Hasil fermentasi isolat fungi endofit FEF2 hari ke 2 terhadap *Candida albicans*
3. Hasil fermentasi isolat fungi endofit FEF2 hari ke 3 terhadap *Candida albicans*
4. Hasil fermentasi isolat fungi endofit FEF2 hari ke 4 terhadap *Candida albicans*
5. Hasil fermentasi isolat fungi endofit FEF2 hari ke 5 terhadap *Candida albicans*
6. Hasil fermentasi isolat fungi endofit FEF2 hari ke 6 terhadap *Candida albicans*
7. Hasil fermentasi isolat fungi endofit FEF2 hari ke 7 terhadap *Candida albicans*

8. Hasil fermentasi isolat fungi endofit FEF2 hari ke 8 terhadap *Candida albicans*
9. Hasil fermentasi isolat fungi endofit FEF2 hari ke 9 terhadap *Candida albicans*
10. Hasil fermentasi isolat fungi endofit FEF2 hari ke 10 terhadap *Candida albicans*
11. Hasil fermentasi isolat fungi endofit FEF2 hari ke 11 terhadap *Candida albicans*
12. Hasil fermentasi isolat fungi endofit FEF2 hari ke 12 terhadap *Candida albicans*
13. Hasil fermentasi isolat fungi endofit FEF2 hari ke 13 terhadap *Candida albicans*
14. Hasil fermentasi isolat fungi endofit FEF2 hari ke 14 terhadap *Candida albicans*
15. Hasil fermentasi isolat fungi endofit FEF2 hari ke 15 terhadap *Candida albicans*
16. Hasil fermentasi isolat fungi endofit FEF2 hari ke 16 terhadap *Candida albicans*
17. Hasil fermentasi isolat fungi endofit FEF2 hari ke 17 terhadap *Candida albicans*
18. Hasil fermentasi isolat fungi endofit FEF2 hari ke 18 terhadap *Candida albicans*
19. Hasil fermentasi isolat fungi endofit FEF2 hari ke 19 terhadap *Candida albicans*
20. Hasil fermentasi isolat fungi endofit FEF2 hari ke 20 terhadap *Candida albicans*
21. Hasil fermentasi isolat fungi endofit FEF2 hari ke 21 terhadap *Candida albicans*


Lampiran 10. Hasil pengukuran bobot sel kering miselia isolat fungi endofit FEF2

Hari	Bobot kertas saring kosong (gram)	Bobot kertas saring + isolat (gram)	Bobot sel kering miselia (gram)
1	0.507	0.516	0.009
2	0.495	0.565	0.07
3	0.463	0.551	0.088
4	0.487	0.579	0.092
5	0.471	0.565	0.094
6	0.46	0.556	0.096
7	0.524	0.623	0.099
8	0.489	0.589	0.1
9	0.489	0.597	0.108
10	0.57	0.678	0.108
11	0.487	0.603	0.116
12	0.485	0.604	0.119
13	0.453	0.573	0.12
14	0.45	0.585	0.135
15	0.463	0.605	0.142
16	0.505	0.65	0.145
17	0.447	0.599	0.152
18	0.485	0.67	0.185
19	0.467	0.69	0.223
20	0.471	0.698	0.227
21	0.511	0.732	0.221
22	0.493	0.718	0.225
23	0.478	0.701	0.223
24	0.457	0.676	0.219
25	0.501	0.721	0.22

Lampiran 11. Gambar Uji aktivitas ekstrak etil asetat isolat bakteri endofit BEF1 dan isolat fungi endofit FEF2



Lampiran 7. Determinasi tumbuhan

 **LABORATORIUM FARMAKOGNOSI**
FAKULTAS FARMASI
UNIVERSITAS HASANUDDIN
KAMPUS UNHAS TAMALANREA, JL. PERINTIS KEMERDEKAAN KM 10
Telp. 0411-588566, 586200, 580216, Ext.1093, Fax. (0411)585188,
MAKASSAR 90245

DETERMINASI TUMBUHAN

Yang bertanda tangan di bawah ini :

Nama : Muhammad Hidayat
Nim : P25000215014

Telah melakukan determinasi tumbuhan di laboratorium Farmakognosi Fakultas Farmasi Universitas Hasanuddin dengan berpedoman pada Buku Flora of Java (Backer, C. A., and van den Brink, R.C.B., 1963). Dengan hasil kunci determinasi sebagai berikut :

Suku : 148. Apiacea
1b..., 18b..., 19a..., 20b (2. Centella)

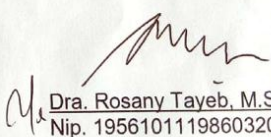
Marga : 2. Centella

Jenis : 1 (*Centella asiatica* (L.) Urb.)

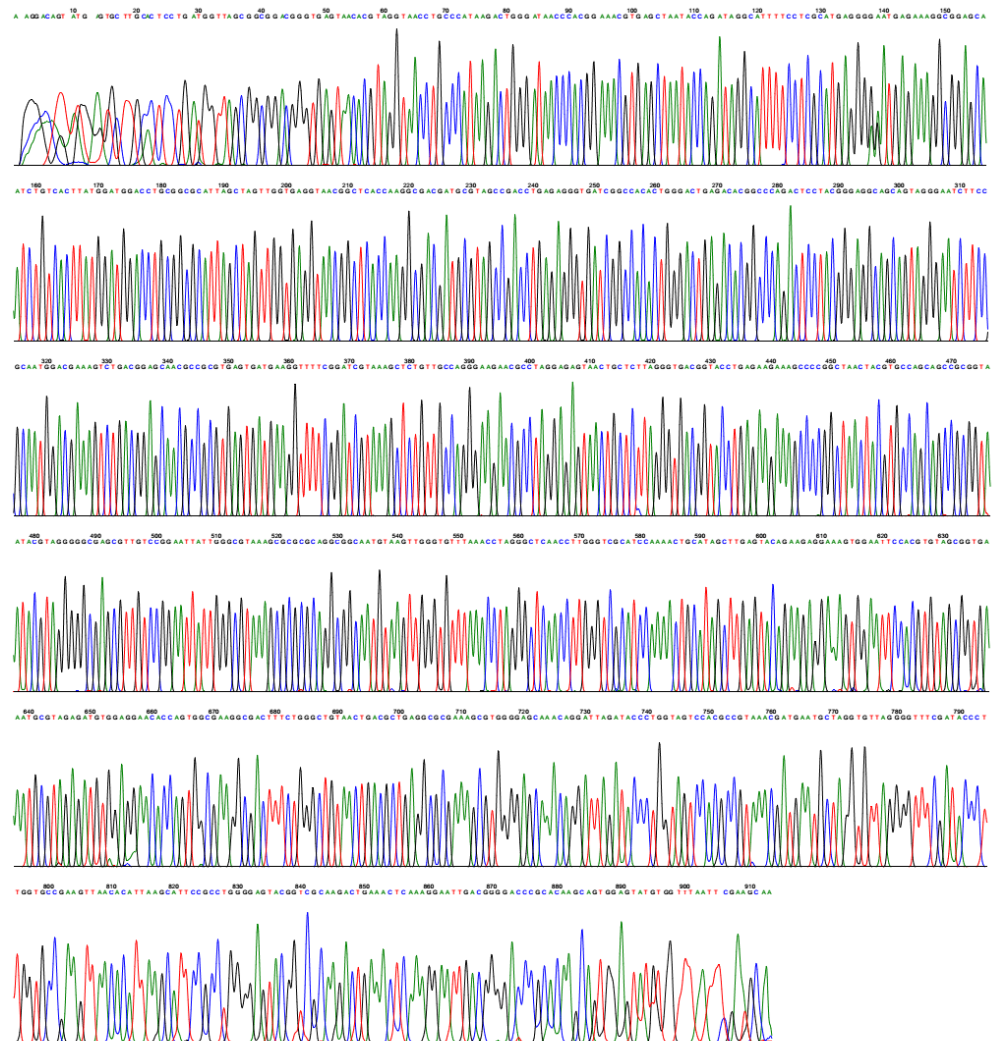
Berdasarkan hasil determinasi tersebut maka diperoleh kepastian bahwa tumbuhan yang dideterminasi dan digunakan dalam penelitian adalah ***Centella asiatica* (L.) Urb.**

Demikian surat keterangan ini dibuat untuk digunakan.

an. Kepala Laboratorium
Farmakognosi
Fak. Farmasi UNHAS


Dra. Rosany Tayeb, M.Si., Apt
Nip. 195610111986032002

Lampiran 8. Hasil sekuensing isolat bakteri endofit BEF1



Keterangan:

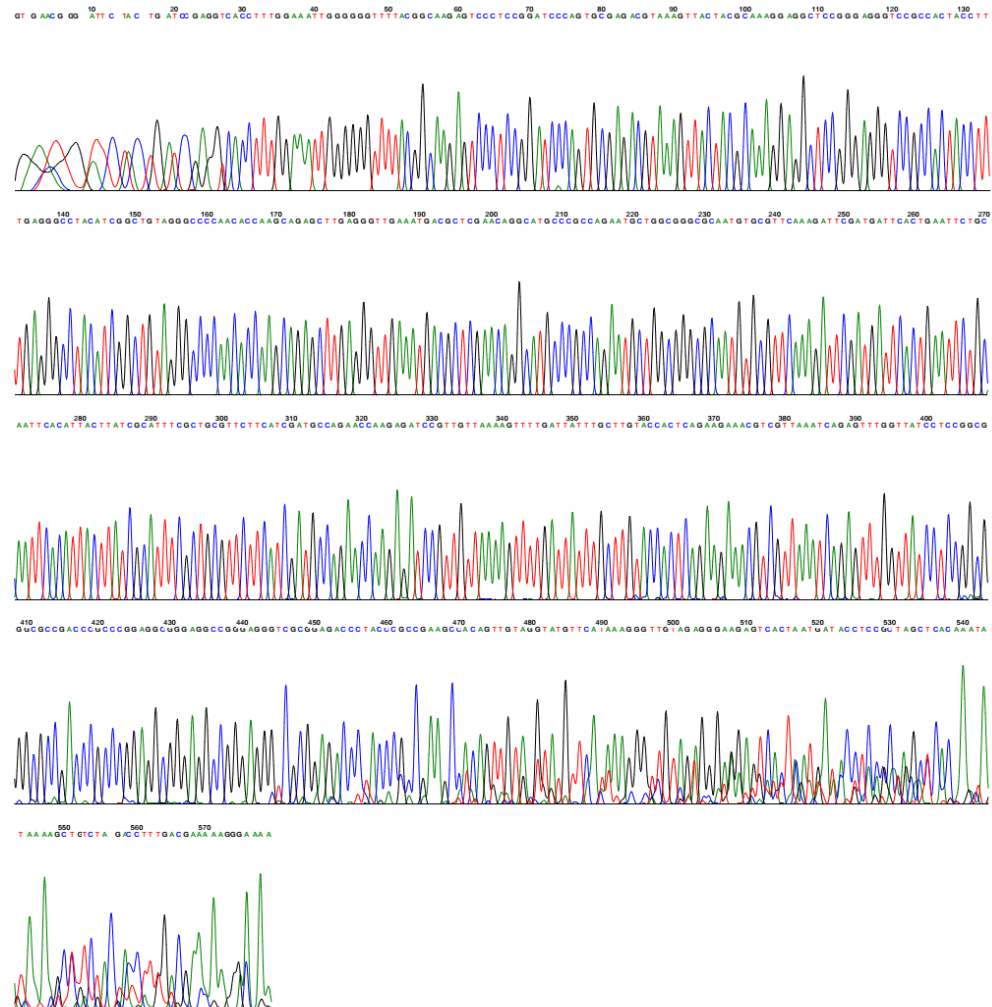
■ : Guanin

■ : Sitosin

■ : Timin

■ : Adenin

Lampiran 9. Hasil sekuensing isolat fungi endofit FEF2



Keterangan:

█ : Guanin

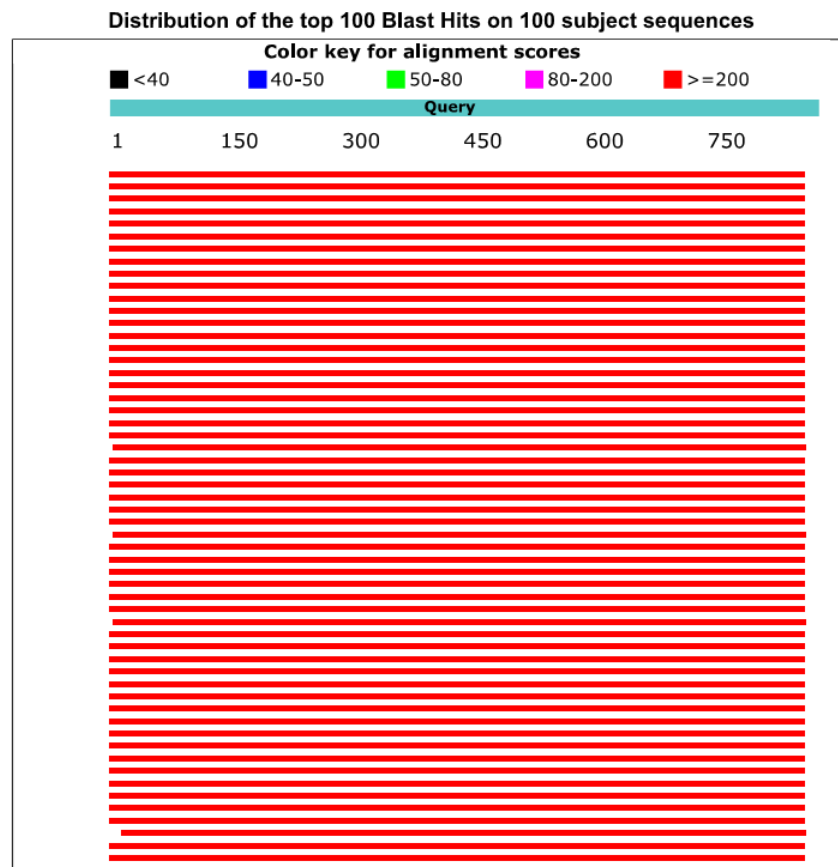
█ : Sitosin

█ : Timin

█ : Adenin

Lampiran 10. Hasil BLAST isolat bakteri endofit BEF1

RID [5SG9K1U4015](#) (Expires on 01-16 12:50 pm)
Query ID Id|Query_6051
Description None
Molecule type nucleic acid
Query Length 848
Database Name nr
Description Nucleotide collection (nt)
Program BLASTN 2.7.1+

Graphic Summary

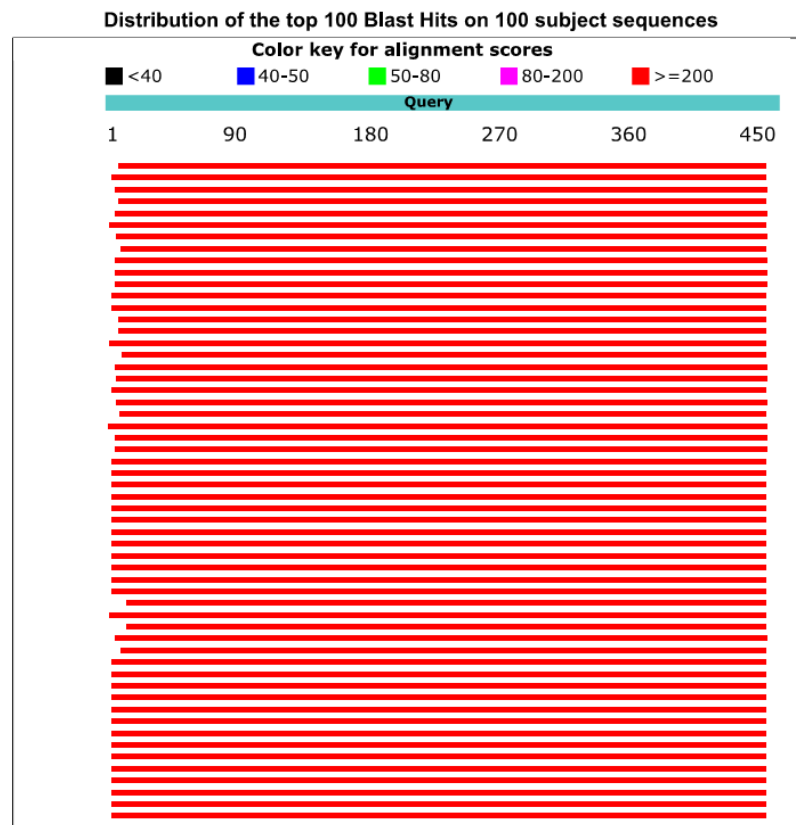
Descriptions

Sequences producing significant alignments:

Description	Max score	Total score	Query cover	E value	Ident	Accession
Paenibacillus alvei strain mv82 16S ribosomal RNA gene, partial sequence	1567	1567	100%	0.0	100%	MF187643.1
Paenibacillus alvei strain m420 16S ribosomal RNA gene, partial sequence	1567	1567	100%	0.0	100%	MF187642.1
Paenibacillus alvei strain m291a 16S ribosomal RNA gene, partial sequence	1567	1567	100%	0.0	100%	MF187632.1
Paenibacillus alvei strain HPB2 16S ribosomal RNA gene, partial sequence	1567	1567	100%	0.0	100%	KY681448.1
Paenibacillus alvei strain Y2 16S ribosomal RNA gene, partial sequence	1567	1567	100%	0.0	100%	KX266960.1
Paenibacillus sp. 4RB2 16S ribosomal RNA gene, partial sequence	1567	1567	100%	0.0	100%	KT150190.1
Paenibacillus alvei strain 3309O2 16S ribosomal RNA gene, partial sequence	1567	1567	100%	0.0	100%	KF600394.1
Paenibacillus alvei strain 3297O2 16S ribosomal RNA gene, partial sequence	1567	1567	100%	0.0	100%	KF600388.1
Paenibacillus sp. EE-3 16S ribosomal RNA gene, partial sequence	1567	1567	100%	0.0	100%	JF742969.1
Paenibacillus alvei strain Sp33 16S ribosomal RNA gene, partial sequence	1561	1561	100%	0.0	99%	MG650050.1
Paenibacillus alvei strain Oa17A 16S ribosomal RNA gene, partial sequence	1561	1561	100%	0.0	99%	MG461561.1
Paenibacillus alvei strain KN3 16S ribosomal RNA gene, partial sequence	1561	1561	100%	0.0	99%	MG283305.1
Paenibacillus sp. strain BAB-6059 16S ribosomal RNA gene, partial sequence	1561	1561	100%	0.0	99%	KY672900.1
Paenibacillus alvei 16S ribosomal RNA gene, partial sequence	1561	1561	100%	0.0	99%	KT934806.1
Paenibacillus alvei strain 0215 16S ribosomal RNA gene, partial sequence	1561	1561	100%	0.0	99%	KP236340.1
Paenibacillus sp. 3281O2 16S ribosomal RNA gene, partial sequence	1561	1561	100%	0.0	99%	KF600376.1
Paenibacillus alvei strain RMS01 16S ribosomal RNA gene, partial sequence	1561	1561	100%	0.0	99%	JX437031.1
Paenibacillus alvei strain NBRC 3343 16S ribosomal RNA gene, partial sequence	1561	1561	100%	0.0	99%	NR_113577.1
Uncultured bacterium clone 5 16S ribosomal RNA gene, partial sequence	1561	1561	100%	0.0	99%	JF830167.1
Paenibacillus sp. ASCD2 16S ribosomal RNA gene, partial sequence	1561	1561	100%	0.0	99%	HM452162.1
Paenibacillus alvei strain NP75 16S ribosomal RNA gene, partial sequence	1561	1561	100%	0.0	99%	FJ151508.1
Paenibacillus alvei gene for 16S rRNA, partial sequence	1561	1561	100%	0.0	99%	AB073200.1
Paenibacillus sp. 3298O2 16S ribosomal RNA gene, partial sequence	1559	1559	99%	0.0	100%	KF600389.1
Paenibacillus sp. PNS-13 16S ribosomal RNA gene, partial sequence	1559	1559	100%	0.0	99%	JF742757.1
Paenibacillus sp. PNS-12 16S ribosomal RNA gene, partial sequence	1557	1557	100%	0.0	99%	JF700524.1

Lampiran 11. Hasil BLAST isolat fungi endofit FEF2

RID [GR65HTVN014](#) (Expires on 05-29 13:50 pm)
Query ID Id|Query_73083
Description None
Molecule type nucleic acid
Query Length 457
Database Name nr
Description Nucleotide collection (nt)
Program BLASTN 2.8.0+

Graphic Summary

Descriptions

Sequences producing significant alignments:

Description	Max score	Total score	Query cover	E value	Ident	Accession
Colletotrichum gloeosporioides 18S ribosomal RNA gene, partial sequence; internal transcribed spacer 1, 5.8S ribosomal RNA gene, and internal transcribed spacer 2, complete sequence; and 28S ribosomal RNA gene, partial sequence	828	828	98%	0.0	100%	GQ119342.1
Fungal endophyte strain I12F-00498 18S ribosomal RNA gene, partial sequence; internal transcribed spacer 1, 5.8S ribosomal RNA gene, and internal transcribed spacer 2, complete sequence; and 26S ribosomal RNA gene, partial sequence	824	824	98%	0.0	99%	KR080830.1
Fungal endophyte strain I12F-01943 18S ribosomal RNA gene, partial sequence; internal transcribed spacer 1, 5.8S ribosomal RNA gene, and internal transcribed spacer 2, complete sequence; and 26S ribosomal RNA gene, partial sequence	822	822	98%	0.0	99%	KR080855.1
Colletotrichum gloeosporioides strain GAL14 18S ribosomal RNA gene, partial sequence; internal transcribed spacer 1 and 5.8S ribosomal RNA gene, complete sequence; and internal transcribed spacer 2, partial sequence	822	822	98%	0.0	99%	KF358713.1
Colletotrichum gloeosporioides strain HT72 internal transcribed spacer 1, partial sequence; 5.8S ribosomal RNA gene, complete sequence; and internal transcribed spacer 2, partial sequence	822	822	98%	0.0	99%	FJ455526.1
Colletotrichum gloeosporioides strain HT31 internal transcribed spacer 1, partial sequence; 5.8S ribosomal RNA gene, complete sequence; and internal transcribed spacer 2, partial sequence	822	822	99%	0.0	99%	FJ455525.1
Colletotrichum gloeosporioides isolate CAUG19 18S ribosomal RNA gene, partial sequence; internal transcribed spacer 1 and 5.8S ribosomal RNA gene, complete sequence; and internal transcribed spacer 2, partial sequence	821	821	98%	0.0	99%	KP145432.1
Colletotrichum gloeosporioides clone h5 18S ribosomal RNA gene, partial sequence; internal transcribed spacer 1, 5.8S ribosomal RNA gene, and internal transcribed spacer 2, complete sequence; and 28S ribosomal RNA gene, partial sequence	819	819	97%	0.0	99%	HM016794.1
Colletotrichum gloeosporioides isolate Colletotrichum gloeosporioides A566 small subunit ribosomal RNA gene, partial sequence; internal transcribed spacer 1 and 5.8S ribosomal RNA gene, complete sequence; and internal transcribed spacer 2, partial sequence	817	817	98%	0.0	99%	KX463021.1

Lampiran 12. Pembuatan larutan stok dan pengenceran pada uji aktivitas larutan stok ekstrak etil asetat

Pembuatan konsentrasi 10.000 ppm = 10.000 mg/L

$$= 10.000 \text{ mg} / 1000 \text{ ml}$$

$$= 10 \text{ mg/ml}$$

Ditimbang 20 mg ekstrak etil asetat dan dilarutkan dalam 2 ml etil asetat.

Konsentrasi 7500 ppm : $M_1 \times V_1 = M_2 \times V_2$

$$7500 \text{ ppm} \times 1 \text{ ml} = 10.000 \text{ ppm} \times V_2$$

$$V_2 = 0.75 \text{ ml}$$

Diambil 0.75 ml ekstrak 10.000ppm dicukupkan hingga 1 ml

Konsentrasi 5000 ppm : $5000 \text{ ppm} \times 1 \text{ ml} = 10.000 \text{ ppm} \times V_2$

$$V_2 = 0.5 \text{ ml}$$

Diambil 0.5 ml ekstrak 10000 ppm dicukupkan hingga 1 ml

Konsentrasi 2500 ppm : $2500 \text{ ppm} \times 1 \text{ ml} = 5000 \text{ ppm} \times V_2$

$$V_2 = 0.5 \text{ ml}$$

Diambil 0.5 ml ekstrak 5000 ppm dicukupkan hingga 1 ml