

## Supporting materials

**article title:** Steroid Metabolism in Thermophilic Actinobacteria *Saccharopolyspora hirsuta*

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**Supplementary Table S3.** Candidate genes for steroids or bile acids degradation in *S. hirsuta*

VKM Ac-666<sup>T</sup>.

No.	Scaffold acc.	Locus tag	Protein acc.	Name/Function
Mce4 transport system				
1.	VWPH01000020.1	<i>F1721_32550</i>	KAA5825886.1	<i>mce4F</i>
2.	VWPH01000020.1	<i>F1721_32555</i>	KAA5825887.1	<i>mce4E</i>
3.	VWPH01000020.1	<i>F1721_32560</i>	KAA5825888.1	<i>mce4D</i>
4.	VWPH01000020.1	<i>F1721_32565</i>	KAA5825937.1	<i>mce4C</i>
5.	VWPH01000020.1	<i>F1721_32570</i>	KAA5825889.1	<i>mce4B</i>
6.	VWPH01000020.1	<i>F1721_32575</i>	KAA5825890.1	<i>mce4A</i>
7.	VWPH01000020.1	<i>F1721_32580</i>	KAA5825891.1	<i>yrbEb</i>
8.	VWPH01000020.1	<i>F1721_32585</i>	KAA5825892.1	<i>yrbEa</i>
Sterol side chain degradation				
9.	VWPH01000020.1	<i>F1721_32590</i>	KAA5825893.1	<i>fabG3</i>
10.	VWPH01000020.1	<i>F1721_32595</i>	KAA5825894.1	aldehyde dehydrogenase
11.	VWPH01000020.1	<i>F1721_32600</i>	KAA5825895.1	<i>hsd4A</i>
12.	VWPH01000020.1	<i>F1721_32605</i>	KAA5825896.1	<i>fadE26</i>

13.	VWPH01000020.1	<i>F1721_32610</i>	KAA5825897.1	<i>fadE27</i>
14.	VWPH01000020.1	<i>F1721_32615</i>	KAA5825898.1	<i>fadD17</i>
15.	VWPH01000020.1	<i>F1721_32620</i>	KAA5825899.1	alpha/beta hydrolase
16.	VWPH01000020.1	<i>F1721_32625</i>	KAA5825900.1	MerR family transcriptional regulator
17.	VWPH01000020.1	<i>F1721_32630</i>	KAA5825901.1	nitronate monooxygenase
18.	VWPH01000020.1	<i>F1721_32635</i>	KAA5825902.1	<i>fadD19</i>
19.	VWPH01000020.1	<i>F1721_32640</i>	KAA5825903.1	<i>echA19</i>
20.	VWPH01000020.1	<i>F1721_32645</i>	KAA5825904.1	acyl-CoA synthetase
21.	VWPH01000020.1	<i>F1721_32650</i>	KAA5825905.1	LLM class F420- dependent oxidoreductase
22.	VWPH01000020.1	<i>F1721_32655</i>	KAA5825906.1	DNA-binding protein
23.	VWPH01000020.1	<i>F1721_32660</i>	KAA5825907.1	<i>ltp4</i>
24.	VWPH01000020.1	<i>F1721_32665</i>	KAA5825908.1	<i>ltp3</i>
25.	VWPH01000020.1	<i>F1721_32670</i>	KAA5825909.1	F420-dependent LLM class oxidoreductase
26.	VWPH01000020.1	<i>F1721_32675</i>	KAA5825910.1	<i>ksdI</i>
27.	VWPH01000020.1	<i>F1721_32680</i>	KAA5825911.1	<i>cyp125</i>
28.	VWPH01000020.1	<i>F1721_32685</i>	KAA5825912.1	<i>fadA5</i>
29.	VWPH01000020.1	<i>F1721_32690</i>	KAA5825913.1	DUF4180 domain- containing protein
Ring A/B oxidation				
30.	VWPH01000020.1	<i>F1721_32695</i>	KAA5825938.1	helix-turn-helix domain-

				containing protein
31.	VWPH01000020.1	<i>F1721_32700</i>	KAA5825914.1	<i>hsaB</i>
32.	VWPH01000020.1	<i>F1721_32705</i>	KAA5825915.1	<i>hsaC</i>
33.	VWPH01000020.1	<i>F1721_32710</i>	KAA5825916.1	<i>hsaD</i>
34.	VWPH01000020.1	<i>F1721_32715</i>	KAA5825917.1	<i>hsaA</i>
35.	VWPH01000020.1	<i>F1721_32720</i>	KAA5825918.1	<i>hsaF</i>
36.	VWPH01000020.1	<i>F1721_32725</i>	KAA5825919.1	<i>hsaG</i>
37.	VWPH01000020.1	<i>F1721_32730</i>	KAA5825920.1	<i>hsaE</i>
38.	VWPH01000020.1	<i>F1721_32735</i>	KAA5825921.1	<i>kstD4</i>
39.	VWPH01000020.1	<i>F1721_32740</i>	KAA5825922.1	<i>kstD3</i>
40.	VWPH01000020.1	<i>F1721_32745</i>	KAA5825923.1	<i>kshA</i>
41.	VWPH01000020.1	<i>F1721_32750</i>	KAA5825924.1	hypothetical protein
42.	VWPH01000020.1	<i>F1721_32755</i>	KAA5825925.1	<i>kshB</i>
“ <i>igr</i> -locus”				
43.	VWPH01000020.1	<i>F1721_32760</i>	KAA5825939.1	FAD-binding oxidoreductase
44.	VWPH01000020.1	<i>F1721_32765</i>	KAA5825926.1	WYL domain- containing protein
45.	VWPH01000020.1	<i>F1721_32770</i>	KAA5825927.1	<i>ltp2</i>
46.	VWPH01000020.1	<i>F1721_32775</i>	KAA5825928.1	<i>chsH1</i>
47.	VWPH01000020.1	<i>F1721_32780</i>	KAA5825929.1	<i>chsH2</i>
48.	VWPH01000020.1	<i>F1721_32785</i>	KAA5825930.1	<i>fadE29</i>
49.	VWPH01000024.1	<i>F1721_33645</i>	KAA5825036.1	<i>fadE28</i>
50.	VWPH01000024.1	<i>F1721_33650</i>	KAA5825037.1	class I SAM-dependent methyltransferase

51.	VWPH01000024.1	<i>F1721_33655</i>	KAA5825022.1	prenyltransferase
52.	VWPH01000024.1	<i>F1721_33660</i>	KAA5825023.1	methyltransferase domain-containing protein
53.	VWPH01000024.1	<i>F1721_33665</i>	KAA5825024.1	glycosyltransferase family 4 protein
Transcriptional regulator				
54.	VWPH01000024.1	<i>F1721_33670</i>	KAA5825025.1	<i>kstR</i>
Ring C/D degradation				
55.	VWPH01000024.1	<i>F1721_33675</i>	KAA5825026.1	MBL fold metallo- hydrolase
56.	VWPH01000024.1	<i>F1721_33680</i>	KAA5825027.1	SDR family oxidoreductase
57.	VWPH01000024.1	<i>F1721_33685</i>	KAA5825028.1	<i>echA20</i>
58.	VWPH01000024.1	<i>F1721_33690</i>	KAA5825029.1	<i>ipdA</i>
59.	VWPH01000024.1	<i>F1721_33695</i>	KAA5825030.1	<i>ipdB</i>
60.	VWPH01000024.1	<i>F1721_33700</i>	KAA5825038.1	<i>ipdC</i>
61.	VWPH01000024.1	<i>F1721_33705</i>	KAA5825039.1	<i>kstR2</i>
62.	VWPH01000024.1	<i>F1721_33710</i>	KAA5825031.1	<i>ipdF</i>
63.	VWPH01000024.1	<i>F1721_33715</i>	KAA5825032.1	<i>fadE30</i>
64.	VWPH01000024.1	<i>F1721_33720</i>	KAA5825033.1	<i>echA13</i> , enoyl-CoA hydratase
65.	VWPH01000024.1	<i>F1721_33725</i>	KAA5825040.1	<i>fadE31</i>
66.	VWPH01000024.1	<i>F1721_33730</i>	KAA5825034.1	<i>fadE32</i>
67.	VWPH01000024.1	<i>F1721_33735</i>	KAA5825035.1	<i>fadE33</i>

Cholate degradation pathway				
68.	VWPH01000001.1	<i>F1721_33645</i>	KAA5838019.1	<i>hsaE3</i>
69.	VWPH01000001.1	<i>F1721_00680</i>	KAA5838020.1	<i>hsaG3</i>
70.	VWPH01000001.1	<i>F1721_00685</i>	KAA5838021.1	<i>hsaF3</i>
71.	VWPH01000001.1	<i>F1721_00690</i>	KAA5838022.1	<i>casA</i>
72.	VWPH01000001.1	<i>F1721_00695</i>	KAA5838023.1	<i>hsaD3</i>
73.	VWPH01000001.1	<i>F1721_00700</i>	KAA5838439.1	<i>kstR3</i>
74.	VWPH01000001.1	<i>F1721_00705</i>	KAA5838024.1	SDR family NAD(P)- dependent oxidoreductase
75.	VWPH01000001.1	<i>F1721_00710</i>	KAA5838025.1	<i>kstD2</i>
76.	VWPH01000001.1	<i>F1721_00715</i>	KAA5838026.1	<i>kstD1</i>
77.	VWPH01000001.1	<i>F1721_00720</i>	KAA5838027.1	SDR family oxidoreductase
78.	VWPH01000001.1	<i>F1721_00725</i>	KAA5838028.1	<i>kshA</i>
79.	VWPH01000001.1	<i>F1721_00730</i>	KAA5838029.1	hypothetical protein
80.	VWPH01000001.1	<i>F1721_00735</i>	KAA5838030.1	<i>kshB</i>
81.	VWPH01000001.1	<i>F1721_00740</i>	KAA5838031.1	<i>ksdI</i>
82.	VWPH01000001.1	<i>F1721_00745</i>	KAA5838032.1	<i>hsaB3</i>
83.	VWPH01000001.1	<i>F1721_00750</i>	KAA5838440.1	SDR family oxidoreductase
84.	VWPH01000001.1	<i>F1721_00755</i>	KAA5838033.1	<i>hsaA3</i>
85.	VWPH01000001.1	<i>F1721_00760</i>	KAA5838034.1	<i>hsaC3</i>
HIP-CoA synthetase				
86.	VWPH01000019.1	<i>F1721_32060</i>	KAA5826116.1	<i>fadD3</i>

Thiolase				
87.	VWPH01000031.1	<i>F1721_34155</i>	KAA5824600.1	<i>fadA6</i>
Cholesterol oxidases				
88.	VWPH01000006.1	<i>F1721_14655</i>	KAA5833518.1	<i>choD</i>
89.	VWPH01000004.1	<i>F1721_09795</i>	KAA5835081.1	<i>choE</i>
Transcriptional regulator				
90.	VWPH01000015.1	<i>F1721_28735</i>	KAA5828487.1	<i>kstR3</i>
Cholate degradation pathway				
91.	VWPH01000015.1	<i>F1721_28740</i>	KAA5828429.1	class I SAM-dependent methyltransferase
92.	VWPH01000015.1	<i>F1721_28745</i>	KAA5828430.1	<i>casA</i>
93.	VWPH01000015.1	<i>F1721_28750</i>	KAA5828431.1	<i>casC/chsE3</i>
94.	VWPH01000015.1	<i>F1721_28755</i>	KAA5828432.1	<i>casE</i>
95.	VWPH01000015.1	<i>F1721_28760</i>	KAA5828433.1	<i>3α-hsd</i>
96.	VWPH01000015.1	<i>F1721_28765</i>	KAA5828434.1	<i>casH</i>
97.	VWPH01000015.1	<i>F1721_28770</i>	KAA5828435.1	<i>casI</i>
98.	VWPH01000001.1	<i>F1721_02365</i>	KAA5838304.1	<i>casE</i>
99.	VWPH01000001.1	<i>F1721_02405</i>	KAA5838310.1	<i>casG</i>