

**Table S5.** Steroids from endophytic fungi and their biological activities, metabolite class, fungus, host plant(s), reference.

Metabolite Class	Fungus	Host Plant(s)	Compounds Isolated	Biological Target	Biological Activity	Reference
Steroids	<i>Aspergillus oryzae</i>	<i>Heterosiphonia japonica</i>	Asporyergosterol ( <b>440</b> )	AChE inhibitory activity	Inhibition rate of 14.0% at 100 µg/mL	98
	<i>Aspergillus oryzae</i> / <i>Alternaria alternata</i>	<i>Heterosiphonia japonica</i> / <i>Psidium littorale</i>	(22E,24R)-Ergosta-4,6,8(14),22-tetraen-3-one ( <b>441</b> )	AChE inhibitory activity	Inhibition rate of 19.8 % at 100 µg/mL	98, 29
	<i>Aspergillus oryzae</i>	<i>Heterosiphonia japonica</i>	(22E,24R)-3β-Hydroxyergosta-5,8,22-trien-7-one ( <b>442</b> )	AChE inhibitory activity	Inhibition rate of 7.2% at 100 µg/mL	98
	<i>Aspergillus oryzae</i> / <i>Chaetomium</i> sp. M453/ <i>Talaromyces</i> sp. SCNU-F0041	<i>Heterosiphonia japonica</i> / <i>Huperzia serrate</i> (Thunb. ex Murry) Trev/ <i>Kandelia</i>	(22E,24R)-Ergosta-7,22-dien-3β,5α,6β-triol ( <b>443</b> )	AChE inhibitory activity	Inhibition rate of 0.4% at 100 µg/mL	98, 100
	<i>Aspergillus oryzae</i>	<i>Heterosiphonia japonica</i>	(22E,24R)-5α,8α-Epidioxyergosta-6,22-dien-3β-ol ( <b>444</b> )	AChE inhibitory activity	Inhibition rate of 8.1% at 100 µg/mL	98
	<i>Aspergillus flavus</i> cf-5	<i>Corallina officinalis</i>	3β,4α-Dihydroxy-26-methoxyergosta-7,24(28)-dien-6-one ( <b>445</b> )	AChE inhibitory activity	Inhibition rate of 5.5% at 100 µg/mL	71
			Episterol ( <b>446</b> )			
	<i>Aspergillus flavus</i> cf-5/ <i>Phyllosticta capitalensis</i>	<i>Corallina officinalis</i> / <i>Huperzia serrate</i> (Thunb. ex Murry) Trev/ <i>Loropetalum chinense</i> var. <i>rubrum</i>	(22E,24R)-Ergosta-5,22-dien-3β-ol ( <b>448</b> )	–	–	71, 77
	<i>Chaetomium</i> sp.	<i>Huperzia serrate</i> (Thunb. ex	Neocyclocitrinol E ( <b>439</b> )	–	–	99

M453	Murry) Trev	Neocyclocitrinol F (450)	AChE inhibitory activity	Inactive	
		Neocyclocitrinol G (451)		Weak activity at 50 μM	
		3β-Hydroxy-5,9-epoxy-(22E,24R)-ergosta-7,22-dien-6-one (452)			
		453		Inactive	
Chaetomium M453/ <i>Phyllosticta capitalensis</i>	sp. <i>Huperzia serrate</i> (Thunb. ex Murry) Trev/ <i>Loropetalum chinense</i> var. <i>rubrum</i>	454	AChE inhibitory activity	Inactive	99, 77
Chaetomium M453	sp. <i>Huperzia serrate</i> (Thunb. ex Murry) Trev	455	AChE inhibitory activity	Inactive	99
Chaetomium YMF432	sp. <i>Huperzia serrata</i> (Thunb. ex Murray) Trev	(3β,5α,6α,22E)-3-Hydroxy-5,6-epoxy7-one-8(14),22-Dien-ergosta (456)	AChE inhibitory activity	IC <sub>50</sub> , 67.8 ± 1.7 μM	Inhibition rate < 60 10% at 100 μg/mL
		β-Sitostenone (457)			
		β-Sitosterol (458)			
<i>Aspergillus terreus</i> (No. GX7-3B)	<i>Bruguiera gymnoiiza</i> (Linn.) Savigny	3β,5α-Dihydroxy-(22E,24R)-ergosta-7,22-dien-6-one (459)	AChE inhibitory activity	Inactive	36
		3β,5α,14α-Trihydroxy-(22E,24R)-ergosta-7, 22-dien-6-one (460)			
		NGA0187 (461)		IC <sub>50</sub> , 1.89 μM	
<i>Curvularia. Talaromyces</i> SCNU-F0041	Sp/ <i>Rauwolfia macrophylla/ Kandelia</i>	Ergosterol (462)	AChE inhibitory activity	IC <sub>50</sub> , 1.52 μM	72

<i>Alternaria alternata</i>	<i>Psidium littorale</i> Raddi	(17 <i>R</i> )-4-Hydroxy-17-methylincisterol (463)	Neuroprotective activity of glutamate induced-PC12 cells	Inactive at 40 and 80 $\mu$ M	29
<i>Colletotrichum</i> sp. F168	<i>Huperzia serrata</i> Trev	Ergosta-7,22-dien-5,9-epoxy-(22 <i>E</i> ,24 <i>R</i> )-6-one-3-yl acetate (464)	AChE inhibitory activity	Inhibition rate of 18.2% at 100 $\mu$ g/mL	62
<i>Talaromyces</i> sp. SCNU-F0041	<i>Kandelia</i>	Cyclosecosteroid A (465) (22 <i>E</i> ,24 <i>R</i> )-5 $\alpha$ ,8 $\alpha$ -Epidioxyergosta-6,22-dien-3 $\beta$ -ol (466)	AChE inhibitory activity	IC <sub>50</sub> , 46 $\mu$ M	100
<i>Phyllosticta capitalensis</i>	<i>Loropetalum chinense</i> var. <i>rubrum</i>	Citreanthrasteroid A (467) Chaxine C (468)	Neuroprotective effect in PC12 cells injury	EC <sub>50</sub> , 24.2 $\mu$ M Inactive at 40 $\mu$ M	77

"\_" not test. IC<sub>50</sub>, half maximal effective concentration; Emax, maximum effect; AChE, acetylcholinesterase.