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5-Aryl-1,3,4-oxadiazole-2-thiols as a New Series of *trans*-Cinnamate 4-Hydroxylase Inhibitors

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Abstract:
A series of 5-aryl-1,3,4-oxadiazole-2-thiols was found to inhibit *trans*-cinnamate 4-hydroxylase (C4H) from *Populus kitakamiensis*, which was expressed in yeast. 5-Phenyl-1,3,4-oxadiazole-2-thiol showed inhibitory activity comparable to 2-hydroxy-1-naphthoic acid, a known C4H inhibitor. Studies on the structure-activity relationship indicated that the presence of a thiol group was significant for stronger activity. Of the compounds tested, 5-(3-fluorophenyl)-1,3,4-oxadiazole-2-thiol was the most active. © Pesticide Science Society of Japan

Keywords:
trans-cinnamate 4-hydroxylase, 5-aryl-1,3,4-oxadiazole-2-thiols, cytochrome P450, *Populus kitakamiensis*

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