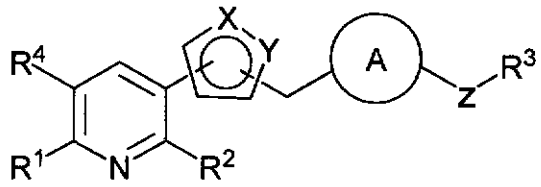
ABSTRACT

PYRIDINE DERIVATIVES SUBSTITUTED WITH HETEROCYCLIC RING AND γ-GLUTAMYLAMINO GROUP, AND ANTIFUNGAL AGENTS CONTAINING SAME

The present invention provides an antifungal agent which has excellent antifungal action, and which is also excellent in terms of its properties, and in particular its solubility in water and safety. The present invention discloses a compound represented by the following formula (I) or a salt thereof.

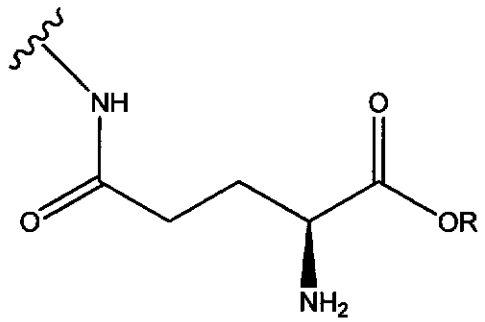


(I)

(wherein

R^1 represents a hydrogen atom, a halogen atom, an amino group, R^{11}-NH- (wherein R^{11} represents a C_{1-6} alkyl group, a hydroxy C_{1-6} alkyl group, a C_{1-6} alkoxy C_{1-6} alkyl group, or a C_{1-6} alkoxycarbonyl C_{1-6} alkyl group), R^{12}-(CO)-NH- (wherein R^{12} represents a C_{1-6} alkyl group or a C_{1-6} alkoxy C_{1-6} alkyl group), a C_{1-6} alkyl group, a hydroxy C_{1-6} alkyl group, a cyano C_{1-6} alkyl group, a C_{1-6} alkoxy group, or a C_{1-6} alkoxy C_{1-6} alkyl group;

R^2 represents a group represented by the formula:



one of X and Y is a nitrogen atom, and the other is a nitrogen atom or an oxygen atom;

ring A represents a 5- or 6-member heteroaryl ring or benzene ring which may have 1 or 2 halogen atoms or C_1 to C_6 alkyl groups;

Z represents a single bond, a methylene group, an ethylene group, an oxygen atom, a sulfur atom, $-CH_2O-$, $-OCH_2-$, -NH-, $-CH_2NH-$, $-NHCH_2-$, $-CH_2S-$, or $-SCH_2-$;

R^3 represents a hydrogen atom or a halogen atom, or represents a C_{1-6} alkyl group, a C_{3-8} cycloalkyl group, a C_{6-10} aryl group, a 5- or 6-member heteroaryl group, or a 5- or 6-member non-aromatic heterocyclic group, each of which may have 1 or 2 substituents selected from substituent group α;

R^4 represents a hydrogen atom or a halogen atom; and

R represents a hydrogen atom, or represents a C_{1-6} alkyl group which may be substituted with a dimethylamino group,

[substituent group α]

a halogen atom, a cyano group, a C_{1-6} alkyl group, a C_{1-6} alkoxy group, a C_{1-6} alkoxycarbonyl group, a C_{3-8} cycloalkyl group, a C_{2-6} alkenyl group and a C_{2-6} alkynyl group).

Figure 1