Glaucamide A: A new fungal metabolite from a species of *Aspergillus glaucus* group

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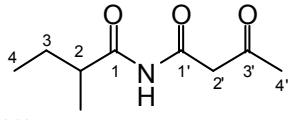
Fungal metabolites are well recognized as an important source of a wide variety of drug leads used at present. From the world's first antibiotic, penicillin, to the potent anticancer agent wortmannin and the popular cholesterol lowering agent lovastatin, are all fungal derived secondary metabolites. Research aimed at discovering new potential drug leads from fungi is carried out globally but, is an area still poorly represented in Sri Lanka. As an outcome of a recent study initiated by us towards chemical and biological evaluation of soil and endophytic fungi collected from various parts in Sri Lanka, we report herein the isolation of a new fungal metabolite, glaucamide A (**1**). The fungus, isolated from a soil sample collected from the garden of the Botany Department at Sri Jayewardenepura University, and identified as a species of *Aspergillus glaucus* group using characteristic features of the colony and asexual reproductive structures, showed considerable antibacterial activity against an unidentified bacterial species during the isolation stage. The MeOH extract of the fungal culture grown on yeast malt agar (YMA), was concentrated and subjected to a series of solvent-solvent partitioning using EtOAc, hexane and CH_2Cl_2. The CH_2Cl_2 fraction was purified by size exclusion chromatography followed by repeated silica gel chromatography to yield glaucamide A (**1**). The structure of **1** was established as 2-methyl-*N*-(3-oxobutanoyl)butanamide by HRESI(+)MS data (*m/z* 208.0945 $[M+Na]^+$, $C_9H_{15}NO_3Na$ requires 208.0944) and 1D and 2D NMR experiments (See Table 1).



(**1**)

Table 1: NMR Data (d_6 – DMSO, 600 MHz) of glaucamide A (**1**)

#	δ_H (multiplicity, *J* in Hz)	δ_C	gCOSY	gHMBC
1		176.5		
2	2.46-2.48 (m)	41.4	H_2-3, 2- *Me*	C-3, 2-*Me*, C-1
3	1.31-1.35 (m) and 1.50-1.55 (m)	26.1	H-2, H_3-4	C-4, 2-*Me*, C-2
4	0.80 (t, 7.5)	11.2	H_2-3	C-3, C-2
2-*Me*	1.00 (d, 7.2)	16.3	H-2	C-3, C-2, C-1
1´		169.0		
2´a & 2´b	3.76 (d, 16.5) and 3.83 (d, 16.5)	53.0		C-3´, C-1´
3´		201.5		
4´	2.15 (s)	30.1		C-3´, C-2´

[13]C assignments were made with the help of both gHSQC and gHMBC experiments

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