

Griseofulvin

Aspergillus amstelodami

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.Aspergillus amstelodami Griseofulvin (GRF)
/ 1500 1250 1000 500

GRF

On the Possible Fusion and Haploidization of Nuclei Induced by Griseofulvin in *Aspergillus amstelodami*

Sahi J. Dhahi

Hiba K. Mahmood

*Department of Biology
College of Science
Mosul University*

ABSTRACT

The present work aimed to investigate two cytological aspects of the antifungal Griseofulvin (GRF) in the ascomycetous fungus *Aspergillus amstelodami*. The first was its ability to induce nuclear fusion and produce heterozygous diploids in the heterokaryotic mycelia, the second was its ability to induce haploidization of such diploids. To that end four sublethal or subinhibitory concentrations 500, 1000, 1250,

,
 .
 (Diploid)
 GRF Diploid
 (Adler *et al.*, 2002)
 (Diploid sperms)
 (Oocytes) (Diploidy)
 .(Tanaka *et al.*, 2004) / 3 1
 (Heterokaryon) diploidization diploid
 .(Deacon, 1980)
 Heterozygous)
 ,Diploid (diploid
 (Camphor vapour)
Aspergillus nidulans 1000-10 Diploid
 .(Sermoni, 1969)
 (Microtubules)
 (Mukherjee *et al.*, 2003) ,(Malsegregation)
 .Haploids
 (Haploid)
 .(Sermoni, 1969; Pontecorvo *et al.*, 1953) ,(Haploidizing agents)
Aspergillus amstelodami

..... Griseofulvin

(Diploid) (Nuclear fusion)
(Haploidization)
(Haploids) (Heterozygous diploid)

bwA A76 *Aspergillus amstelodami*

nicA

wA AZG131 (Caten, 1979)

lysA

8 – azaguanine

azgA
(1985)

.Caten (1979)

.M (Minimal medium)

.MTS (Malt Extract – Salt medium)

(C) (Complete Supplement)

MTS M

. 100 5 (C) CMTS CM

Sodium deoxycholate

(MD) / 400 (M)

(6.2) pH

. °30

(GRF)Griseofulvin

(Tablets)

Grisodin (SDI) /

500

.(White, 1971)

10 (500) / 50000

Benomyl

(Benlate)

.(Welker and Williams ,1980) %50 (Benomyl)

500 0.02

. / 20 / 40

Heterokaryon

AZG131 A76 CMTS

3-2 2-1

M 4 ³ 2-1

.()

Heterozygous diploids

M

4-3 MD

:

.

(⁶-10)

MD

,

.

Diploidization

M

M

4

. / 1500 1250 1000 500 GRF

..... Griseofulvin

M

. 3 (0)
5

1 0.1 MD 4
0.1 CMD 3 ⁴⁻10

MD 4-3 CMD 4 .
:
MD Diploid

Diploid

.CMD

CMD

) ⁴10 MD CMD
.MD (

MD Diploid
(Diploid) MD

Haploidization

Diploid GRF

. 3 CMTS
CMTS (3 × 3 Pin replicator)

/ 1500 1250 1000 500 GRF

0.2 Benlate . 7-5

(Hastie,1970) /

.Diploid

Diploid (0)

CMTS

()

Diploid

3 .(Caten, 1979)
(270)

.

Diploidization

GRF

MD

GRF

5

$t_{(4+4)}$

(t)

.

(SE)

%1

(t)

3

.

CMD

GRF

(t)

.(Steel and Torrie, 1980) $t_{(2+2)}$

(Nuclear fusion)

(Diploid)

(Anastomosis)

(Nuclear migration)

.(Marek *et al.*, 2003)

:

.

/

1500 1250 1000 500

GRF

(t)

/

1500 1250 1000 500

..... Griseofulvin

$$\frac{(t_8)}{3.355} \cdot (1)$$

$$\frac{(3 \cdot 10 \times)}{:1}$$

A76 + AZG131

Griseofulvin

$$(0 \quad)$$

t	$\pm$ ($3 \cdot 10 \times$						(/)
		R5	R4	R3	R2	R1	
0	1.66 ± 8.37	6.69	3.72	7.21	12.95	11.27	0
0.44	1.36 ± 7.43	6.46	10.31	4.89	10.99	4.50	500
0.36	2.08 ± 7.42	8.96	3.31	6.12	14.73	3.97	1000
0.28	1.04 ± 7.82	8.03	5.23	9.97	10.20	5.68	1250
1.31	1.16 ± 5.71	9.21	3.64	5.70	7.16	2.82	1500

: 0

GRF

$$\cdot \quad / \quad 1500 \quad 1250 \quad 1000 \quad 500$$

GRF

$$\frac{(t_4)}{4.604} \cdot (t) \cdot (2)$$

.

Diploids

-

-

(Nuclear fusion)

Diploid

.(Viaud *et al.*, 1998) Diploid

Diploid

GRF

(M)

(Fincham *et al.*, 1979)

$^{7}10$ $^{6}10$ Diploid
 (2)
 Diploid .Diploid
 .(Burnett, 1975)
 $(^{6}10 \times)$:2
 A.amstelodami A76 + AZG131
 Griseofulvin

t	$\pm$) ($^{6}10 \times$				(/)
		R3	R2	R1	
0	0.18 ± 0.97	1.30	0.67	0.95	0
1.05	0.17 ± 1.23	1.16	1.55	0.98	500
0.35	0.22 ± 0.87	1.29	0.58	0.73	1000
0.66	0.11 ± 1.11	1.28	0.91	1.13	1250
0.48	0.23 ± 0.83	1.28	0.57	0.64	1500

: 0

Haploidization
 . GRF
 ()
 .(Firon *et al.*, 2003) Diploid
 %100
 GRF .(3) GRF
 (Haploids)
 Diploid (Whittaker *et al.*, 1989) .
Saccharomyces cerevisiae
 . GRF
 GRF *Saccharomyces cerevisiae*
 .(Albertini *et al.*, 1993)

Aspergillus (A76/AZG131)

:3

Griseofulvin

amstelodami

Benomyl (0)

R3			R2			R1			GRF (/)
	*			*			*		
0	0	90	0	0	90	0	0	90	0
0	0	90	0	0	90	0	0	90	500
0	0	90	0	0	90	0	0	90	1000
0	0	90	0	0	90	0	0	90	1250
0	0	90	0	0	90	0	0	90	1500
100	90	90	100	90	90	100	90	90	Benomyl

*

Coprinus cinereus

.(North, 1977)

Albertini (1991)

.(S₉)

Saccharomyces cerevisiae

Aspergillus amstelodami

.1985

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