Out of the thirteen arboviruses tested, only Ingwavuma (ING) (633970) virus showed evidence of CPE and multiplication. The CPE was in the form of rounding of 75% cells on the second PI day and 100% on the next. Although the titre of the ING virus was not very high, the second passage tissue culture fluid, when titrated in infant mice, showed evidence of multiplication. The WN virus multiplied without any CPE; Kyasanur Forest Disease (KFD) and CHP viruses persisted in traces upto the 10th PI day, but could not be detected on subsequent passage. The remaining viruses did not show any evidence of multiplication, when the infected tissue culture fluids of the zero, 3rd, 7th and 10th PI days were assayed in infant mice.

It appeared that mouse PM supported the growth of only WN and ING viruses from among the arboviruses tested. This was further confirmed by carrying out three serial passages of these viruses in PM.

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ANTIVIRAL ACTIVITY OF 6MFA, GROWTH PRODUCT OF FUNGUS *A. OCHRACEUS*, AGAINST FOOT AND MOUTH DISEASE VIRUS

Foot and Mouth Disease (FMD) is an acute viral disease of the cloven footed animals. The virus comes in seven major types, namely, 'O', 'A', 'C', 'Asia-1', 'SAT-1', 'SAT-2' and 'SAT-3 and has over 62 subtypes.

Use of interferon (IF) and interferon inducers to control and manage FMD (picornavirus) virus infection in animals has been considered seriously in recent years. Particular mention may be made of yeast *RNA*, a product which, if injected continuously into infected mice, guinea pigs or cattle, is claimed to cause delayed clinical manifestations of FMD[1] presumably caused by interferon. Because virulent strains of FMD seem ot produce less of IF in host animals[2] and the avirulent strains more of it, there is a suggestion that FMD virus multiplication in mice can be restricted if adequate concentrations of IF in serum or body tissues is maintained through endogenous production or exogenous augmentation.

We recently reported isolation of an inducer of interferon trivially designated as 6–MFA[3-5] obtained from the fungus *Aspergillus flavus* Du/KR/162 *b* (Syn. *A. ochraceus* ATCC 28706), which inhibits Semliki Forest Virus (SFV) infections in experimentally inoculated Swiss Albino mice. We now report the results of tests of antiviral activity of 6–MFA against FMD virus.

6–MFA, a polysaccharide nucleoprotein complex, was prepared as per the technique described by Maheshwari and Gupta[3]. FMD virus 'O' and 'A' were obtained from IVRI in the form of 10% (w/v) muscle homogenates of the infected mice. Both strains are well adapted to multiply in 2–3 weeks old mouse[6]. For 'O' strain the MST values were 4·8 and 5·1 days, and for 'A' they were 4·5 and 4·5 days (*see* Table I). To assess anti-FMD virus activity, mice were first treated with 6–MFA through intraperitoneal route at the rate of 2 ml and 1 ml doses per mouse. This quantity of 6–MFA, chosen to treat mice against FMD, corresponds to that which usually gives 80% protection against SFV infection in similar mice[3]. Treated animals were challenged 24 hrs. later with the viruses ('O' and 'A') given by intramuscular route at the rate of 0·25 ml of $10^{2.6}$ and $10^{1.6}$ of type 'O', and $10^{2.2}$ and $10^{1.2}$ of type 'A' respectively (100 and 1000 LD_{50}) per mouse. The LD_{50} contained in the inoculum was determined by Reed and Muench[7] method. Mice were observed twice daily morning and evening for the development of specific paralytic symptoms and death upto 14 days after which the experiments were terminated.

In general, the proportion of animals protected against type 'O' was more than in type 'A' indicating that FMD type 'O' virus appears to be *more sensitive* to the antiviral action of 6–MFA than the type 'A'. Even then, the MST of treated mice (type 'A' infected animals) has been found to vary directly with the quantity of the inducer (Table I). Furthermore, the MST here was seen to increase with the size (100 and 1000 LD_{50}) of the challenge inoculum. This type of response can be explained on the basis of the participation of a specific type of immune (antibody) response increasing with

TABLE I

Showing the antiviral activity of 6-MFA against the FMD virus %

FMD virus type	Dose of 6MFA/PBS (i.p.)	No. of mice	Virus (i.m.)	Protection S/T (%)	MST (in days)
'O'	1 ml	9	100 LD_{50}	3/9 (33·3)	6·5
	2 ml	9	,,	5/9 (55·5)	7·5
	1 ml PBS (CONTROL)	10	,,	Nil	4·8
	1 ml	10	1000 LD_{50}	4/10 (40·0)	7·3
	2 ml	10	,,	3/10 (30·0)	6·5
	2 ml PBS (CONTROL)	10	,,	Nil	5·1
'A'	1 ml	9	100 LD_{5}	1 9 (11·1)	5·0
	2 ml	9	,,	1/9 (11·1)	6·6
	1 ml PBS (CONTROL)	10	,,	Nil	4·5
	1 ml	10	1000 LD_{60}	1/10 (10·0)	7·5
	2 ml	8	,,	3/8 (37·5)	8·0
	2 ml PBS (CONTROL)	10	,,	Nil	4·5

S = number of surviving; T = total mice. i.p. = intraperitoneal; i.m. = intramuscular.
PBS = phosphate buffer saline.

increased supply of the antigen apparently accumulating through intracellular antiviral action of IF induced by 6–MFA.

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STREPTOMYCES VIJAENSIS—A NEW STREPTOMYCETE

WHILE carrying out the systematic screening for the isolation of streptomycetes capable of producing new antibiotics, a new streptomycete was isolated from a soil sample collected from Krishna river bed at Vijayawada (A.P.) which was designated as *S. vijaensis*.

The materials and methods used were similar to those of our previous communication[1] and ISP procedures[2]. The sporophores are simple, and occurred as straight to wavy in most cases with a few extended open spirals and occasionally a few open and closed hooks. No verticils were observed. The spores are oval to elliptical with warty surface.

Cultural characters.—Glucose-Czapek's agar : Growth excellent ; reverse yellowish brown to brown (14–A–10) ; aerial mycelium abundant, pale dull rose (3–A–8) ; yellowish brown throughout and purple (43–F–7) pigment around co'onies.

Glycerol-asparagine agar ISP : Growth good ; reverse colourless to light yellowish brown (12–G–6) ; aerial mycelium moderate, pale pink (2–B–1).

Inorganic salts-starch agar ISP : Growth excellent ; reverse light dull brownish yellow (11–C–3) ; aerial mycelium abundant, light dull rose (4–A–8).

Oatmeal agar ISP : Growth good ; reserve cream ; aerial mycelium good, pale pink (2–C–1).