

CYTOPATHIC EFFECT IN LAMB TESTICLE CELLS INFECTED WITH SHEEPOX VIRUS*

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In last few years the adsorption of sheeppox virus (SPV) was studied in sheep thyroid cells (2), but no systematic analysis of the interval required for adsorption had been made. This work was undertaken to evaluate the minimal SPV adsorption time to initiate cytopathic effect (CPE) in lamb testicle cells (LTC).

The Ranipet strain of SPV grown on sheep thyroid cells was obtained in a freeze-dried form from the Institute of Veterinary Preventive Medicine, Ranipet, Tamil Nadu, India and adapted to LTC. The fourth passage was used. LTC were prepared according to Mateva *et al.* (1); Parker's medium supplemented with Tryptose Phosphate Broth (0.295 percent W/V) and 10% inactivated calf serum was used for cell growth; the maintenance medium contained five per cent calf serum.

Ten sets of cell culture tubes (three tubes each) in two repeated experiments were inoculated with SPV at multiplicity of 1 PFU per thyroid cell and incubated at 37°C. After adsorption for 1, 2, 3, 4, 5, 10, 15, 20 or 25 min the inoculum was discarded and monolayers were washed three times with the maintenance medium. After addition of 1.5 ml fresh maintenance medium to each tube, the tubes were incubated at 37°C. A control set was mock infected and treated as above.

CPE was observed in all virus-infected cultures (Table). It may be seen that the onset and extent of CPE varied according to the duration of adsorption. As short as one min adsorption was sufficient for SPV to gain entry into the LTC. With increasing time the onset and completion of CPE were reduced. It may be also noted that the time for CPE completion was inversely proportional to the time allowed for virus adsorption.

Preparing the growth curve of SPV in sheep thyroid cells the time required for virus adsorption was less than five minutes (2). This and the present results indicate that adsorption of SPV to sheep thyroid or lamb testes cells is rapid; however more virus may be adsorbed within time as evidenced by proportional reduction of the period required for completion of CPE.

Incubation in hrs	Time of virus adsorption in min								
	1	2	3	1	5	10	15	20	25
42	0	0	0	0	±	±	±	±	±
48	0	0	±	±	±	+	2+	2+	2+
72	+	+	+	+	+	2+	3+	3+	3+
96	+	+	2+	2+	2+	3+	4+	4+	4+
120	2+	2+	3+	3+	3+				
144	3+	3+	4+	4+	4+				

Extent of CPE: ± a few foci; + = 25 per cent; 2+ = 50 per cent; 3+ = 75 per cent; 4+ = more than 75 per cent

References

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