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A Polyoma Virus mutant, dl-23, is defective in changing the cytoskeletal actin pattern of infected cells.

It has been reported (Schlegel and Benjamin, Cell, 1978, 14 587) that the hr-t mutants (non-t transforming mutants of polyoma virus) are unable to alter the cytoskeletal actin pattern of infected cells. Since dl-23 (report number) which has a deletion in the area of early region of viral DNA well outside the hr-t region is also defective in cell transformation, it was of interest to determine whether the mutant would change the actin pattern of infected cells. Mouse 3T6 cells or secondary mouse embryo cells were infected with wild type virus, dl-23, dl-8 (see report number) or NG-18 (an hr-t mutant (Benjamin, PNAS 1970, 67 394)) and cells were fixed at various times after infection. Actin cables were visualized by staining with rhodamin conjugated anti-globulin. Over 85% of 3T6 cells infected with wild type virus and the mutant dl-8 lost actin cables within 48 hr after infection while less than 30% of cells infected with dl-23 or NG-18 showed the loss of actin cables.

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