

**12.7. The Physiological Basis of the Killer Character  
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A high percentage of sensitive cells are killed when incubated in cell-free filtrates of buffered

medium in which killer cells have been grown. The percentage killing depends on the period of incubation of both (1) the killer cells prior to filtration, and (2) the sensitive cells following filtration. So far, up to 39 per cent of the sensitive cells have been killed when incubated for 3 hr in a filtrate derived from a 48 hr growth of killer cells. A filtrate obtained from homogenized killer cells resuspended in fresh medium also shows killer activity.

The particular nature of the killing factor is suggested by three types of observation: (1) the retention of activity after dialysis of the cell-free filtrate for 24 hr in distilled water, (2) the concentration of activity following its ultracentrifugation at 40,000 rev/min for 1 hr, and (3) the appearance of particles approx.  $350\text{\AA}$  in size when a concentrated filtrate is examined under the electron microscope.

Killer cells have been recovered from an 18 hr growth of sensitive cells (nk genotype) in cell-free killer medium. They are presumed to arise by infection since, by appropriate crosses, they have been shown to possess the same nuclear genotype (nk) as the original sensitives. Killer or neutral cells have not yet been recovered following incubation of sensitive cells in cell-free neutral medium.