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MRC-5 (Lung, diploid, human)

Derived from normal lung tissue of a 14-week-old male fetus by J. P. Jacobs in September 1966 (Nature 227: 168-170, 1970), the MRC-5 cell line was established in a growth medium consisting of Earle's Basal Medium in Earle's balanced salt solution supplemented with 10% calf serum. Following initial cultivation, subcultures were prepared twice weekly at a 1:2 ratio. When the cells reached approximately the 7th population doubling, the majority of the cultures were harvested to prepare a frozen cell stock. Subsequent observations revealed that the MRC-5 cells are capable of attaining 42-46 population doublings before onset of the decline in proliferation usually experienced with human fibroblast lines. The MRC-5 cell strain (like the WI-38 cell line) is susceptible to a wide range of human viruses.

Culture Medium

Minimum essential medium (Eagle), with 10% heat-inactivated fetal bovine serum.

Growth Characteristics

Cells seeded at a concentration of 4×10^4 cells/cm² in the above culture medium will be 100% confluent in 7 days.

Plating Efficiency

Less than 1%.

Morphology

Fibroblast-like.

Karyology

Chromosome Frequency Distribution is 46 Cells: $2n = 46$.

Species

Confirmed as human by cytotoxic-antibody dye exclusion test.

Common Utilization

Supports the growth of a broad range of viruses, including Adenoviruses; Coxsackie A; Cytomegalovirus; Echovirus; Herpes simplex Virus; Poliovirus; Rhinovirus; Respiratory Syncytial Virus; and Varicella Zoster Virus. Also used for in vitro cytotoxicity testing.