



ViroMed Laboratories Selected Profiles of Cell Cultures

MRC-5 (Lung, diploid, human)

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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.

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Letters to Nature

Nature **227**, 168-170 (11 July 1970) | doi:10.1038/227168a0

Characteristics of a Human Diploid Cell Designated MRC-5

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THE stability and integrity of the human foetal cell strain WI-38, which has been well demonstrated in the past ten years¹⁻³, and its susceptibility to viruses infective for man^{1,4}, explain the value of such material for the isolation of viruses and in the development of vaccines⁵⁻⁸. We have developed another strain of cells, also derived from foetal lung tissue, taken from a 14-week male foetus removed for psychiatric reasons from a 27 year old woman with a genetically normal family history and no sign of neoplastic disease both at abortion and for at least three years afterwards. The criteria used for characterizing the cells are those recommended internationally^{2,9}.

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