

VERO XerumFree™

Subject: Vero cells in XerumFree™

The Vero cell strain used in the following experiments comes from a flask of VERO IM 153 on the 153th passage acquired from the ATCC. This strain was divided into two sub-lines, one propagated in Fetal Bovine Serum (FBS) - supplemented medium and the other sub-line proliferating in XerumFree™ - supplemented serum-free medium.

Evaluation of growth in serum-supplemented versus XerumFree™-supplemented medium.

This study was performed with Vero cells adapted over long-term culture in serum-free, XerumFree™-supplemented medium. Growth dynamics were compared to those of the sub-line growing on FBS-supplemented medium. The result are from a 6-day culture period in T25 flasks. Cell numbers were determined at the end of the 144 hour culture period.

Medium	Seeding cell density (per cm ²)	Final cell density (per cm ²)	Cell Multiplication Index
Williams Medium E + 10% FBS	20,000	184,000	9.20
Williams Medium E + 10% XerumFree™	20,000	197,000	9.85



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Growth of Vero cells in XerumFree™-supplemented medium on microcarriers.

In this study a Vero strain adapted since 3 passages to serum-free growth in XerumFree™-supplemented Williams Medium E was grown on microcarriers (200 mg cytodex / 100 ml corresponding to 1200 cm² growth area) in small scale laboratory bioreactors. To test out potential positive effects of insulin, this hormone was added to the culture medium (1.25 mg/l) in one group from day 0 through day 4, after which the medium was switched back to Williams E + XerumFree™ alone.

As can be seen, in both conditions the Vero cells showed a constant growth over the whole experimental period. The addition of insulin during the initial growth phase (4 days) caused a growth enhancement during the logarithmic growth phase, albeit the two experimental groups showed only a slight difference (< 10%) in the final cell numbers (< 10%). These results may indicate that a short mitogenic stimulus by insulin during the initial growth phase may be sufficient to generate a sustained growth benefit over the whole batch culture period.

