

Abstract T3 - Sixteenth Annual Clinical Virology Symposium
Clearwater, Florida
April 30-May 3, 2000

COMPARISON OF VARIOUS TRANSPORT MEDIA FOR RECOVERY OF VIRUSES, CHLAMYDIA AND MYCOPLASMA. D. Vestal*, M. Garber, D. Mack, K. DeAngelo, and B.A. Body. Laboratory Corporation of America, Burlington, NC.

Objective

To compare the recovery of viruses, *Chlamydia trachomatis* and mycoplasma from Multitrans System S160 (MT) (Starplex Scientific, Etobicoke, Ontario, Canada), Multi-Microbe Media M4 (M4) (Micro Test, Lilburn GA/Remel, Lenexa, KS), CVM Transport (Hardy Diagnostics, Santa Maria, CA), Culture Eze Viral Transport (CEVT) (MML Diagnostics, Troutdale, OR) and 2SP (Two X Sucrose Phosphate) transport media.

Methods

Laboratory stock strains of Herpes simplex virus1 and 2 (HSV1, HSV2), Cytomegalovirus (CMV), Varicella zoster (VZ), *Chlamydia trachomatis* (CT), *Mycoplasma hominis* and *Ureaplasma urealyticum* were diluted and inoculated into four sets of transport media. Immediately after preparation, one set of the simulated specimens was inoculated into tissue culture (Mycoplasma into 10B broth) to establish baseline recovery data for each organism. Two sets of simulated specimens stored at 4°C were cultured after 24 hr and 72 hr, respectively. The fourth set was stored at -70°C to simulate transportation on dry ice; it was thawed and immediately after thawing a baseline for recovery was established by culture. Once thawed, the simulated specimens were held at 4°C and cultured after 24 hr and 72 hr to mimic a delay in processing of a frozen and thawed specimen. Cultures were scored semiquantitatively (0-4+) for quantity of growth; the time of detection was also recorded.

Results

In each transport media, recovery following incubation at -70°C (all time points above baseline) was less than that of identical suspensions stored at 4°C. Recovery of HSV1 was similar in all media at both time points. HSV2 recovery was similar in 3 of 4 media, with markedly decreased recovery from CEVT at both 24 hr and 72 hr. CMV recovery was similar in both the MT and M4 media with less recovery from CEVT and CVM transports. VZ was recovered better from the MT and M4, with cell toxicity noted in cell cultures from CEVT. Recovery of CT was consistent among 3 of 4 media after storage at 4°C and immediately after thawing, but recovery was diminished in all media when previously frozen simulated specimens were held prior to culture. Recovery of *Mycoplasma hominis* and *Ureaplasma urealyticum* was consistent from all media.

Conclusions

Temperature and storage time altered the performance of the various transport media. Recovery was similar in both the MT and the M4 media through the 72 hr time point. The overall performance of MT and M4 was better than the performance of the CVM transport and

CEVT media, in total recovery and time to recovery. Either MT or M4 could serve as an acceptable single transport.

Selected Conclusions

- ★ Multitrans and M4 had similar performance and were superior other transports tested
- ★ Prolonged storage at room temperature prior to use did not significantly affect the recovery of the agents studied (HSV1, HSV2, CMV, VZV; *Chlamydia trachomatis*, & *Ureaplasma / Mycoplasma*).
- ★ Although it would be prudent to store Multitrans at refrigerated temperature. It should be permissible to allow storage in examination rooms for periods less than one month without affecting the recovery of viruses.