

COMPARISON of UTM-RT and M4-RT TRANSPORT MEDIA for the ISOLATION of VIRUSES and CHLAMYDIA

S. Castriciano, M. Booth, M. MacPherson, M. Smieja, and M. Chernesky

Hamilton Regional Laboratory Medicine Program and McMaster University St. Joseph's Healthcare, Hamilton, ON, CANADA.

BACKGROUND

Successful Detection of:

- Antigens by Direct immuno assays
- Nucleic acids by conventional or Real Time PCR

Isolation of microbes in cell cultures

May be dependent upon the commercial transportation system used during specimen collection.

MATERIALS

UTM-RT (*Universal Transport Media - Room Temperature*)
(Copan Diagnostics Inc.)

- Collection and Transport system for viruses, chlamydiae, mycoplasma and ureaplasma at RT
- Provided as stand alone medium tubes and Nylon flocked plastic shaft pernasal swabs in peel pouches or as collection kits with medium tube combined with Nylon flocked pernasal swab

M4-RT (*MicroTest - Room Temperature*)
(Remel)

- Collection and Transport system for viruses and chlamydiae at RT
- Provided as stand alone conical shaped medium tubes or packaged as a collection kit with a pernasal hard wire polyester swab and a regular size plastic shaft polyester swab

The following Laboratory Isolates were used for this comparison:

- Influenza A and B
- Parainfluenza type 1, 3
- Respiratory Syncytial Virus
- Adenovirus
- Coxsackie B4
- Echovirus 11
- Cytomegalovirus
- Herpes Simplex type 1 and 2
- Chlamydia trachomatis

OBJECTIVE

To compare recovery and stability of laboratory virus strains and Chlamydia trachomatis diluted in UTM-RT from Copan and M4-RT from Remel after storage at 4° and 20° C.

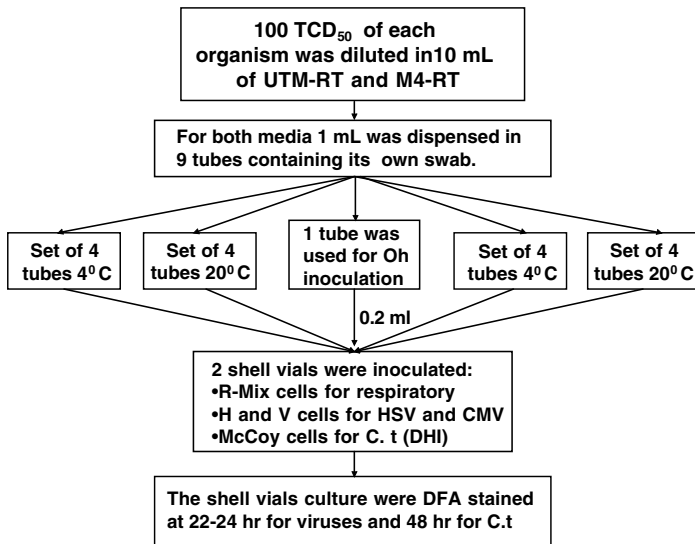


UTM-RT (Copan)



M4-RT (Remel)

METHODS



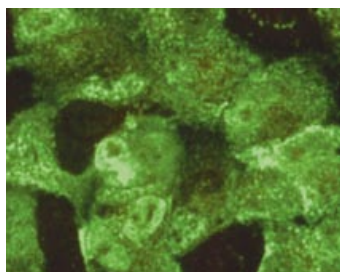
Results Recording:

The fluorescence was read blindly by three technologists and was graded as follows:

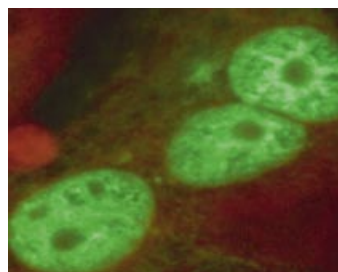
4+ (100%); 3+ (75%); 2+ (50%);
1+ (25 %); + (<25%)

If less than 25% the number of infected cells or lesions were counted per each vial.

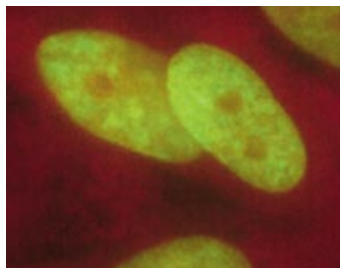
The mean of six reading was used.



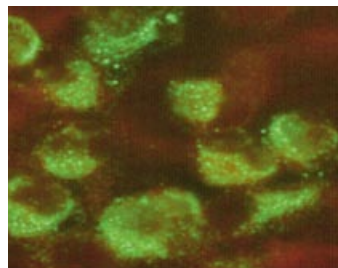
Influenza A (400x)



Influenza B (400x)



RSV (400x)



Echo 11 (400x)

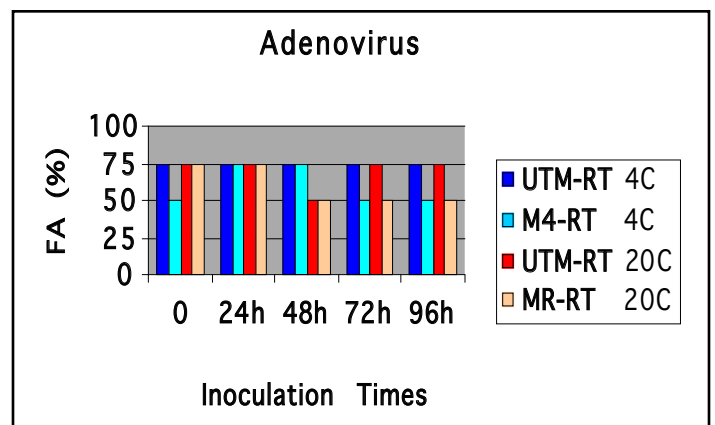
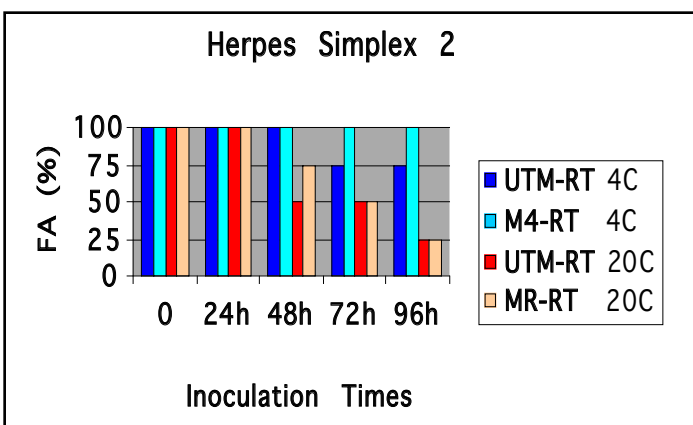
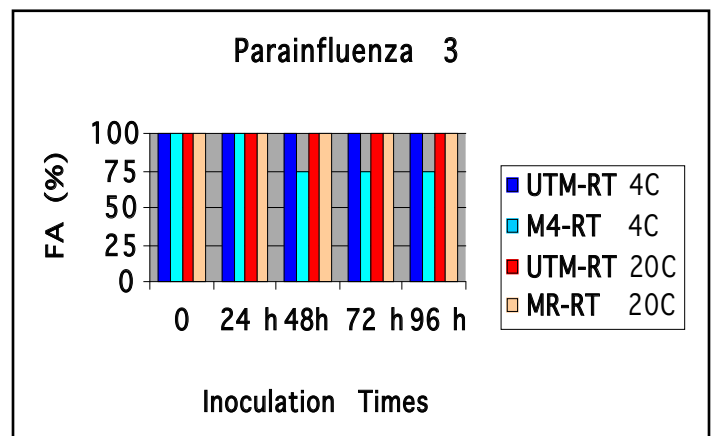
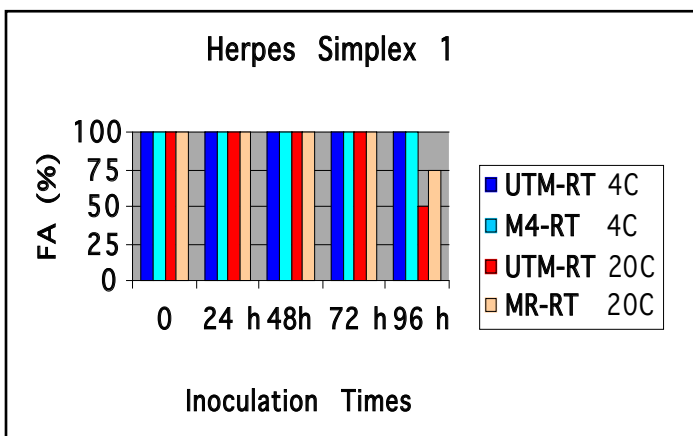
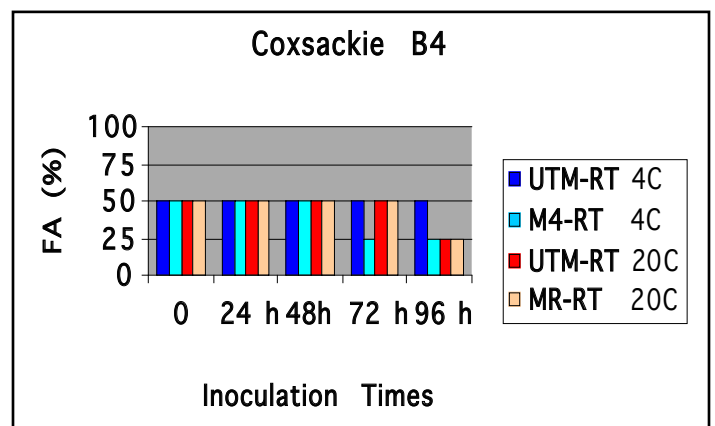
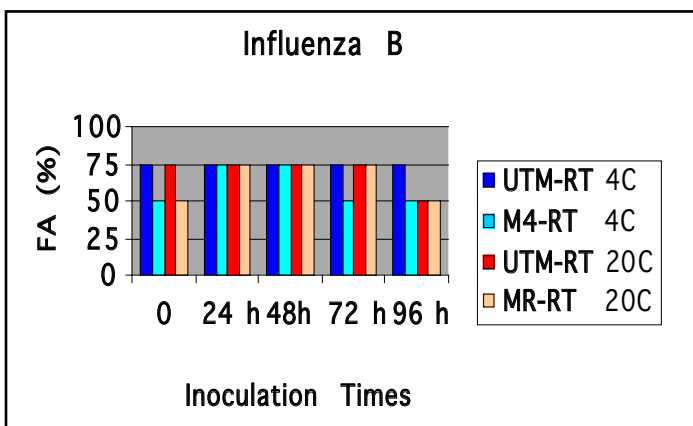
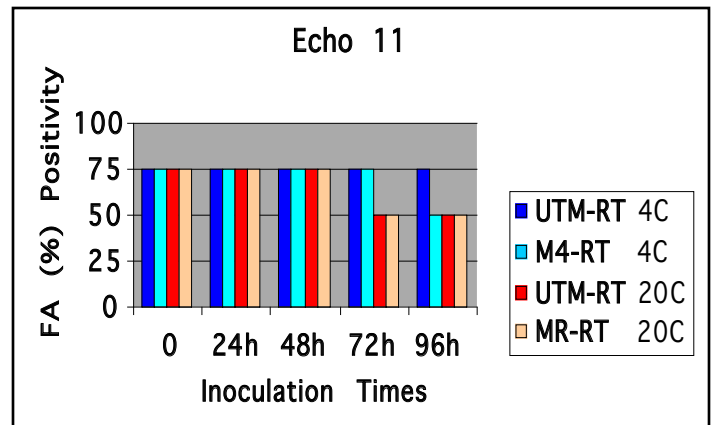
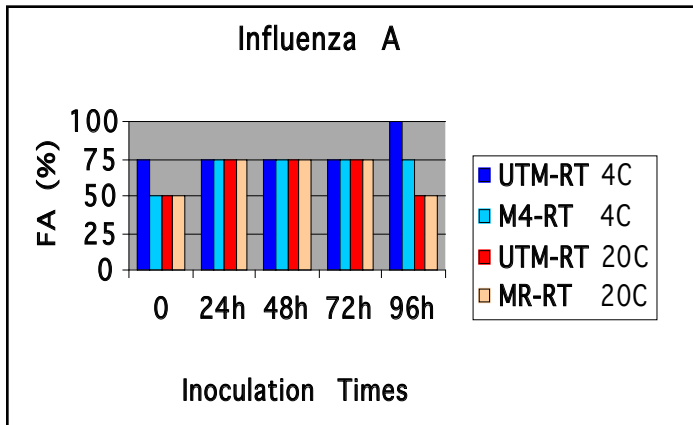
RESULTS

- RSV growth after 72 to 96 hours storage at 40C with the Copan UTM RT but not with the Remel M4RT
- Remel M4RT had a reduction in the number of CT inclusions after 72h and 96h storage at 200 C as compared to the Copan UTM RT.
- Decrease in recovery with time for Para 1 and CMV with the Remel M4RT.

CONCLUSIONS

- Both transport media performed similarly for most of the organisms
- In the Copan UTM-RT RSV remained viable up to 96 hours compared to 48 hours with the M4-RT
- Remel M4RT had a reduction in the number of CT inclusions after 72h and 96h storage at 200 C
- Decrease in recovery with time for Para 1 and CMV with the Remel M4RT.

RESULTS



RESULTS

