



Preparation of transport media for corona virus (Covid 19) from Iraqi local materials

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Mohammad jaber humady

Abstract

Preparation of virus transport media (VTM) for Corona virus from Iraqi local materials in order to provide the health centers in myssan and other Iraqi provinces and we try to do this media because the important need to it which it used to transport the virus from the place of taken the sample to the laboratory to make the diagnosis for it and the transport process sometime need several days or more especially for the samples which need to transport to laboratory outside of the country so this transport media need to be contain all the requirement for protective the virus particle from the suitability of the solution to the nature of the virus and also need to fix the PH degree must be between 5.5 – 8.5 degree and some viruses need to translate them quickly because they lost the infectivity power and become weak if the translate process delayed some time also we can keep the viruses in refrigerator temperature between 2-8 degree and also we can freeze the samples at (-70 c) if these samples decide to send to laboratory outside of the country

INTRODUCTION

The virus transport media consist of liquid and other important material to save the virus survive for several time until make the important tests on this virus and take the final diagnosis to detect this virus under study there are many kinds of these transport media which make in the laboratory which considerate the suitable properties in their structure which is the virus need them to still survive for several time and still maintain its particular structure because the virus is obligate parasite and its need living cells to still survive and these cells of animal or human or plant and also bacterial cells latterly used food circles and other living agent from living tissue to replicate the nucleic acid of the virus so the replicate of the viruses usually happened in living organism or in the living cells growth on non-living food circles

Below kinds of media which used to multiply the virus in the laboratory

- 1-Animal cellular culture
- 2-Plant viruses
- 3- Bacteriophages

Although the virus cannot multiply outside the living host but latterly succeed to do that artificially in the laboratory and become routine work in the small laboratory so the danger lies in this step and the purpose of this step was study these viruses to protect the human and other organism from the dangerous of these virus but latterly exploited these dangerous viruses to kill to kill the human and their castles and plants and these procedure to replicate the virus by use the eggs embryo to replicate the virus nucleic acid in the appropriate temperature also they can replicate the virus on the artificial culture consist of animal tissue or human tissue and by

this media they can see the react of the virus with these cells of these tissue and can evaluate the effect of these virus on these cells and they can see the syndrome viral infection on these tissue and use these information to make the vaccine to these dangerous viruses under the study to create the immunity to humans and animals against these pathogen viruses.

Results

A test was done to the virus transport medium (VTM) for presence of bacterial pollution by striking as ample of the medium on the blood agar and macCkongy agar the result was negative and the medium was sterile and the result of use this medium as a virus transport medium gave appositive result for a person was infected by corona virus and gave negative result for negative sample by used PCR technique and these result compression by china VTM used as transport medium in the laboratory. And the medium which i prepared it gave critical result more than the foreign medium (the china vtm) and this medium more stability and still active for long time more than the foreign medium.

Conclusion

This transport medium is given good result by used PCR technique and the result was more critical than the foreign VTM used as indicator to prove the extent validity of this medium I used the human plasma in this medium and this ingredient gave the medium a properties similar to the properties which find in living human cells and also used the normal saline after sterile this solution by autoclave without using any antibiotic with this solution because the presence of antibiotic affects in the save of the virus in in this medium as remember in some reference I used autoclave technique to sterile the medium and also used the basic biological pigments which adjust the rate of PH value which suitable for virus medium also the stability of this medium was excellent and more stability than the foreign VTM which used in our country .

Discussion

Use this virus transport medium(VTM) to transport the virus sample as a local VTM by using Iraqi material took from Iraqi environment in order to provide this medium to Iraqi medical center and also to reduce the cost of the foreign vtm which import from foreign countries and also we can provide this medium immediately to the medical center when it need this important medium in addition to the good properties of this medium and the long stability comparison to the foreign medium (china vtm) and also quick and easy preparing this medium give it apriority comparison to the foreign medium and this properties gave it desirability more than the foreign medium from the side of ph stability and the prolonged of expire date .

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