



THE UNIVERSITY OF
TOLEDO
1872

seeks partner to license

Method to Obtain Cellular RNA Substantially Free of Protein and DNA

The use of low pH phenol to also remove DNA, in addition to protein, has been in use for at least 25 years. However, this results in the loss of polyadenylated RNA in addition to DNA. Various methods of equilibrating the phenol with the buffer used to extract the tissue/cells have been suggested to prevent this from happening. Current methods use either selective adsorption of RNA to silica matrices or differential filtration through membranes to obtain RNA free of protein and DNA. A popular technique uses a mixture of phenol, guanidinium, and acetate. One of the drawbacks is that adding guanidinium isothiocyanate to phenol and dissolving cells in this mixture followed by the addition of chloroform means that the extracted RNA is in the aqueous phase, but that the DNA remains at the interphase between the aqueous and organic phases. There is a need for an improved method that does not have these drawbacks, and there is also a need for a method that provides better yields of cellular RNA for animal cells and tissues. It is also desired that there be a method that allows for the dissolving of living cells while obtaining and retaining the dissolved cells in an aqueous medium before extracting the desired materials. Therefore, a novel method for extracting cellular RNA from an aqueous phase of a sample containing RNA, DNA, and proteins has been developed.

The University of Toledo is seeking a company interested in utilizing this novel method for the purification of RNA substantially from both proteins and DNA using a low pH phenol dissolved in specific detergents.

Applications:

1. Efficient method for the extraction and purification of substantially all RNA from protein and DNA

Advantages:

1. Provides an efficient method for the purification of RNA substantially from both proteins and DNA
2. High yield purification of RNA without loss of valuable RNA from the sample
3. Allows substantially all the cellular RNA to be extracted from the sample including those kinds that would have been excluded from the aqueous phase
4. Allows certain polyadenylated RNA such as Sindbis virus genome and subgenomic mRNA to be retained in the aqueous phase during extraction

This invention is patent pending

Contact

The University of Toledo
Office of Research Development
MS 1034
3000 Arlington Avenue
Toledo, Ohio 43614

Phone: 419-383-6965
E-mail: samuel.giles@utoledo.edu



