

RNA extraction from Streptomyces (Actinobacteria) Lab. Microbial Metabolism - Shanghai Jiao Tong University

CONTEXT

Validamycin is a non-systemic antibiotic with fungicide action. It is most effective against damping-off diseases and is used for protecting seedling and clone cuttings.

Our lab is focused on Functional Analysis of the Validamycin Biosynthetic Gene Cluster and Engineered Production of Validoxylamine-A.

This study compares the efficiency of total RNA isolation in using the Precellys®24 vs. Enzymatic lysis.

PROTOCOLS

Precellys®24 sample preparation is compared to traditional enzymatic lysis methods

1. Precellys®24
Parameters: 6500rpm, 2 x 23 sec., 10 sec. break
RNA extraction with Trizol method

. Enzymatic lysis RNA extraction with Qiagen RNAeasy Mini Kit

Gel electrophoreris analysis and band detection by ethidium bromide staining and UV illumination

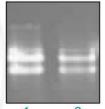
MATERIAL

- Precellys®24
- Precellys® kit VK01
- Sample: Streptomyces Streptomycin (20mg of mycelium)
- Qiagen RNAeasy Mini Kit
- Buffer: Trizol or lysozyme (3mg/mL)

RESULTS

Total RNA extracted is visualized by ethidium bromide staining and UV Illumination.





- Lane 1: total RNA extracted with Precellys®24
- homogenization Lane 2 : total extracted RNA with enzymatic lysis

RNA quantity was found to be 2.5 times higher for Precellys®24 samples when higher for Precellys®24 compared to Enzymatic lysis.





Mycelium of Streptomyces

CONCLUSION

A higher RNA quantity was obtained by using Precellys®24 when compared to Enzymatic lysis. In addition to time saving, easy handling and reproducibility of the results, the Precellys®24 increases the experiment output.



For more details, please contact precellys@bertin.fr or visit our website



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