Promega

Product Application

DNA extraction from *Saccharomyces* cerevisiae using Maxwell® RSC instrument

DNA extraction from Saccharomyces cerevisiae using Maxwell® RSC whole blood DNA kit

Kit: Maxwell® RSC Whole Blood DNA kit (Cat. #AS1520)

Analyses: Nanovue® quantification and qPCR amplification

Sample Type(s): *S. cerevisiae* pellet

Input: up to $9x10^7$ cells

Materials Required:

- Maxwell® RSC Whole Blood DNA kit (Cat. #AS1520)
- Maxwell® RSC Instrument (Cat. #AS4500)
- Lyticase (Sigma, Ref.L2524)
- TE Buffer, 1X, Molecular Biology Grade (Cat. #V6231)

This protocol was developed by Promega Applications Scientists and is intended for research use only.

Users are responsible for determining suitability of the protocol for their application.

Further information can be found in Technical Manual #TM455, available at: www.promega.com/protocols

Protocol:

1. Make pellets of a *S. cerevisiae* culture with a O.D~1 (approx. $3x10^7$ cells)
2. Add 12.5 µl of lyticase at 4 u/µl + 87.5 µl of TE Buffer 1X and resuspend the pellet
3. Incubate for 60 min at 30°C and 1000 rpm
4. Add the lysate on well #1 of the cartridge
5. Add a plunger on well #8 of the cartridge
6. Place an elution tube into the elution tube position and add 60µl of elution buffer
7. Run the whole Blood method on the Maxwell® RSC instrument

Results:

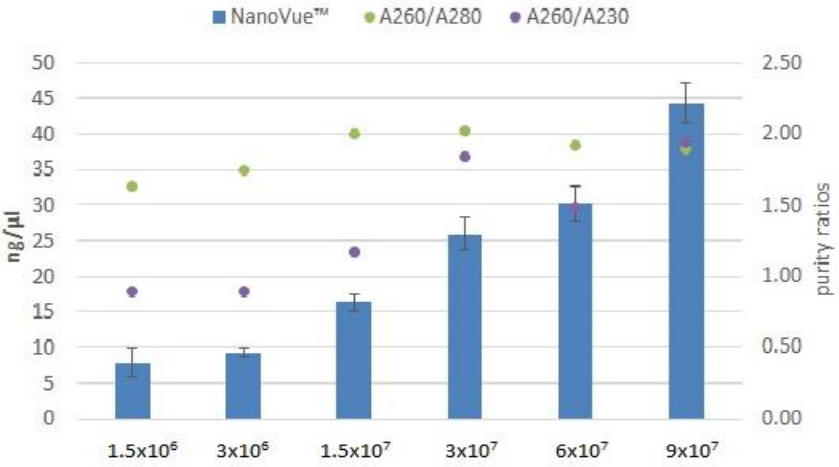

Figure 1. DNA concentration and purity ratios. DNA extracted with Maxwell® RSC Instrument from $1.5x10^6$, $3x10^6$, $1.5x10^7$, $3x10^7$, $6x10^7$ and $9x10^7$ *S.cerevisiae* cells pellets were quantified and ratios were measured using NanoVue™ spectrophotometer. N=3

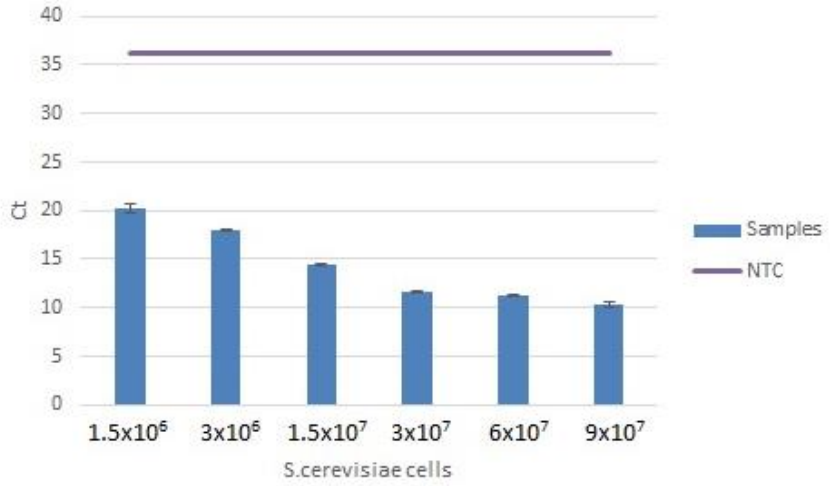

Figure 2. qPCR amplification. Ct values obtained for 2 µl of DNA extracted from *S.cerevisiae* using GoTaq® qPCR master mix and 18Sr primers[1].NTC= 36.2. N=3±SD

Reference:

[1] Cabib, E., Roh, D.H., Schmidt, M., Crotti, L.B. & Varma, A. The yeast cell wall and septum as paradigms of cell growth and morphogenesis. J Biol Chem 276, 19679-19682 (2001).