

Humic Acid Removal from Soil Samples

When isolating DNA from soil samples containing humic acid, the FastDNA® SPIN Kit for Soil procedure requires additional washes to remove inhibitors of PCR and is modified by the following:

*Please prepare a 5.5 M Guanidine Thiocyanate solution prior to using either option.

OPTION A:

1. At step 9 in the FastDNA® SPIN for Soil protocol, instead of letting the GLASSMILK® Binding Matrix settle, briefly centrifuge the tubes at 14,000 x g (~5seconds) and remove the supernatant.
2. Wash the pellet by gently resuspending in 1 ml of 5.5 M Guanidine Thiocyanate.
3. Briefly centrifuge the tubes at 14,000 x g (~5 seconds) and remove the supernatant.
4. Repeat washing process until the silica returns to its original color.
5. After the last wash with Guanidine, resuspend the silica in 1 ml of Guanidine Thiocyanate and transfer 600 µl to a SPIN filter and centrifuge at 14,000 x g for 1 minute.
6. Empty the catch tube and add the remaining supernatant to the SPIN filter, spin again, and empty the catch tube.
7. Continue with step 12 in the FastDNA® SPIN Kit for Soil protocol.

OPTION B:

1. Prepare a Humic Acid Wash Solution by combining the following in a 1.5 ml microcentrifuge tube:
978 µl Sodium Phosphate Buffer
122 µl MT Buffer
250 µl PPS
2. Mix well and spin at full speed for 1 minute. Transfer supernatant to new tube (2.0 ml or larger).
3. Add an equal volume of the 5.5 M Guanidine Thiocyanate solution and mix well.
4. After step 9 in the FastDNA® SPIN Kit for Soil protocol, add 500 µl of Humic Acid Wash Solution to the SPIN filter.
5. Spin at 14,000 x g for 1 minute and empty catch tube.
6. Repeat washing process until silica returns to its original color.
7. Continue with step 12 in the FastDNA® SPIN Kit for Soil protocol.