

DNAFLUID+ KIT (E07020001)

INTRODUCTION



The DNAFluid+ Kit for viscous DNA eliminates the challenges of using highly viscous extracted DNA samples for any downstream steps and QC. The DNAFluid+ Kit consists of proprietary “Hydropore-Syringe” and “Hydro Tube” shearing accessories that reduce the viscosity of DNA by pre-conditioning high molecular weight DNA prior to shearing on the Megaruptor 3. This combination of the DNAFluid+ Kit and the Megaruptor 3 together achieve effective, automated homogenization of highly viscous DNA samples while keeping the integrity of the DNA and full control of the DNA size prior to any downstream applications. Note, the DNAFluid+ Kit pre-conditions viscous DNA and shearing is accomplished with the use of the Megaruptor 3 in conjunction with this kit.

PROTOCOL

Note before starting

When the Circulomics Nanobind Kit and protocol is used to extract (u)HMW DNA:

- Use no more than 5 million cells/sample to extract DNA.
- Use 150 to 199 μ l as a final elution volume.

Optional: Incubate extracted DNA 10 min at 37°C before proceeding with the DNAFluid+ Kit.

Remark

Any viscous DNA extracted with other methods can be treated with the DNAFluid+ Kit as long as its purity is acceptable (no cell debris and particles).

1. **Transfer** your extracted DNA samples to the Hydrotubes using wide bore 1 ml tips.
2. **Spin** your samples briefly (2 - 5 s in a benchtop centrifuge) to make sure all the solution is in the bottom of the tube.
3. **Start and initialize** the Megaruptor.
4. **Go** to ‘Protocols’ and ‘Go & Shear’ to start the pre-conditioning process.

Last update: March, 2022

5. Set the shearing parameters in the Mega3 software.

- Set the volume to a value between **150 and 199 μl**

Remark

When the sample volume entered to the software is below the exact value of 200 μl , 60 passes through the DNAFluid+ Hydropore will be applied during the homogenization process. It is however possible to treat a higher sample volume with the DNAFluid+ kit. In this case, the current software settings will apply 30 passes (see the manual of Megaruptor 3 for more details). Thus, to have 60 passes with a sample volume higher or equal to 200 μl , the same run has to be applied twice.

- Set the speed to **40**

Remark

This speed is a good starting point for most of the samples. Depending on the sample viscosity, other speeds between 35 and 59 can be used. Higher speeds are more optimal when the viscosity is higher and vice versa.

- Set the concentration to any value below **50 ng/ μl** .

6. **Plug** the Hydrotubes with the extracted DNA sample (from step 1) to the DNA Fluid+ Hydropore-Syringe

7. **Insert** the samples into the cassette.

NOTE: Always use a consumable in channel 1 and 8. If one sample only will be treated, use an empty consumable as a balance.

8. **Start** the protocol and check if the sample is passing through the hydropores during the first couple of minutes.

9. Once the **protocol ended**, remove the assembly from the cassette and **unplug** carefully and slowly the Hydropore-Syringe from the Hydrotube. The samples are ready to be sheared on the Megaruptor 3.
<https://www.diagenode.com/en/p/megaruptor-3-DNAFluid-kit>

For any assistance, please, contact us at www.diagenode.com/en/pages/support or scan:

