CLAIMS

1. A cell lysis device comprising:

a housing comprising:

an opening configured to receive a sample container such that when the sample container is received by the opening the opening is closed by the sample container to seal the housing; and

an interference fit attachment configured to releasably attach to a further interference fit attachment of a driver apparatus to releasably attach the housing to the driver apparatus, wherein the cell lysis device further comprises:

a sonication chamber provided within the housing, the sonication chamber being at least partly filled with an ultrasonic wave transfer medium, wherein when the opening receives a sample container a part of the sample container projects into the ultrasonic wave transfer medium; and

an ultrasonic transducer which generates ultrasonic waves in the ultrasonic wave transfer medium within the sonication chamber, wherein the ultrasonic waves are transferred by the ultrasonic wave transfer medium from the ultrasonic transducer to the sample container to lyse cells when cells are contained within the sample container.

2. The device of claim 1, wherein the interference fit attachment comprises at least one projection extending outwardly from the side of a base of the cell lysis device.

3. The device of claim 1 or claim 2, wherein the ultrasonic transducer is at least partly of a compound comprising lead, zirconium and titanium.

4. The device of any one of the preceding claims, wherein the ultrasonic transducer is configured to oscillate at a frequency of 2.8MHz to 3.2MHz.

5. The device of any one of the preceding claims, wherein the ultrasonic transducer is a circular disc shape and has a diameter of 16mm and a thickness of 0.7mm.

6. The device of any one of the preceding claims, wherein the ultrasonic transducer comprises a first electrode and a second electrode which are provided on opposing sides of the ultrasonic transducer, wherein the first electrode and the second electrode comprise silver and the capacitance between the first electrode and the second electrode is 800pF to 1300pF.

7. The device of claim 6, wherein the first electrode is at least partly covered with a glass coating.

8. The device of any one of the preceding claims, wherein the ultrasonic transducer is carried by a transducer holder which is of silicone rubber.

9. The device of claim 8, wherein the transducer holder is in the form of a ring which at least partly surrounds the ultrasonic transducer.

10. The device of any one of the preceding claims, wherein the ultrasonic wave transfer medium is of a higher acoustic impedance than water.

11. The device of any one of the preceding claims, wherein the ultrasonic wave transfer medium comprises vegetable glycerine.

12. A system comprising:

the cell lysis device (3) of any one of the preceding claims; and

a sample container (22), wherein the sample container is received by the opening and the opening (20) is closed by the sample container to seal the housing.

13. The system of claim 12, wherein the sample container is a microcentrifuge tube.