KAMIYA BIOMEDICAL COMPANY

DNA Quantification Kit

For quantifying DNA in cell lysates and determining the number of cells in culture systems

Cat. No. KT-045

For Research Use Only. Not for Use in Diagnostic Procedures.

PRODUCT INFORMATION

DNA Quantification Kit
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PRINCIPLE
Reagent H33258 binds with DNA and forms a fluorescent substance (emission=485 nm). By adding the H33258 directly to a cell homogenate, DNA quantification can be performed without purifying DNA. This kit contains the same buffer which is used for KAMIYA BIOMEDICAL COMPANY'S other cell function-measuring kits (Acidic Mucopolysaccharide Assay, TRAP Staining, and GPDH Assay). Therefore, the same sample can be shared among those assays and the DNA Quantification Kit. For research use only, not for diagnostic use.

COMPONENTS

Reagent	Quantity
Color Developer (H33258)	10 mL x 1
Buffer	125 mL x 2
Calibrator (DNA 100 µg/mL)	2 mL x 1

Kit Size: Enough reagent for 200 samples.

MATERIALS REQUIRED BUT NOT PROVIDED
Adjustable pipettor

Fluorometer

Purified water

STORAGE
Kit components can be stored at 4°C until expiration date.

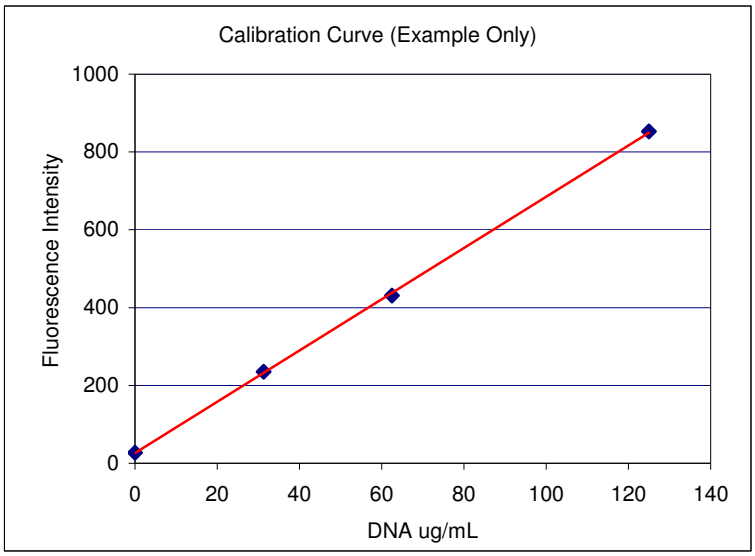
PRECAUTIONS
1. Read the instructions carefully before beginning the assay.
2. This kit is for research use only, not for human or diagnostic use.
3. Great care has been taken to ensure the quality and reliability of this product. However, it is possible that in certain cases, unusual results may be obtained due to high levels of interfering factors.

REAGENT PREPARATION
Serial dilute the stock DNA Calibrator (100 µg/mL) with purified water to 50, 25, and 12.5 µg/mL. Use the purified water for a 0 µg/mL calibrator and the DNA calibrator stock for 100 µg/mL.

Diluted assay calibrators can be stored frozen at -20°C. Do not thaw the diluted calibrators more than 1 time.

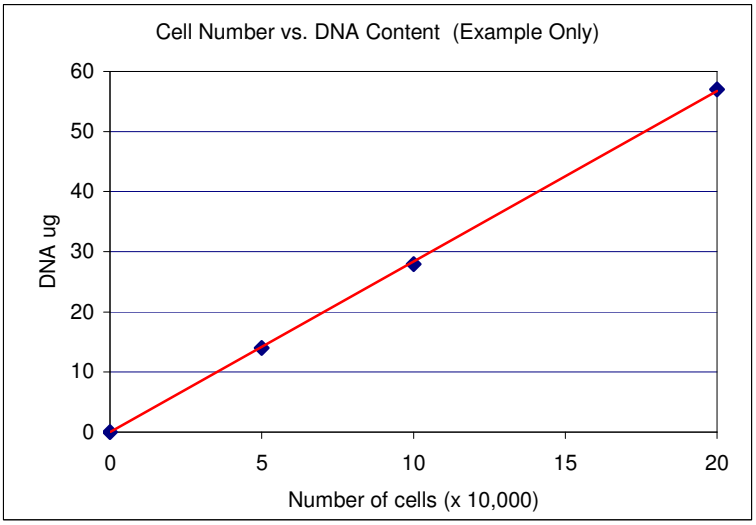
PROTOCOL
1. Centrifuge cultured cells.
2. Remove supernatant and resuspend the cell pellet in buffer.
3. Sonicate cells until cells are homogenized.
4. Add 1 mL of buffer to 50 µL of cell homogenate and 1 mL of buffer to each assay calibrator.
5. Mix to evenly distribute the sample in the buffer.
6. Add 50 µL of Color Developer to each tube.
7. Mix thoroughly.
8. Measure fluorescence (excitation at wavelength 356 nm, emission at 458 nm).

CALCULATIONS



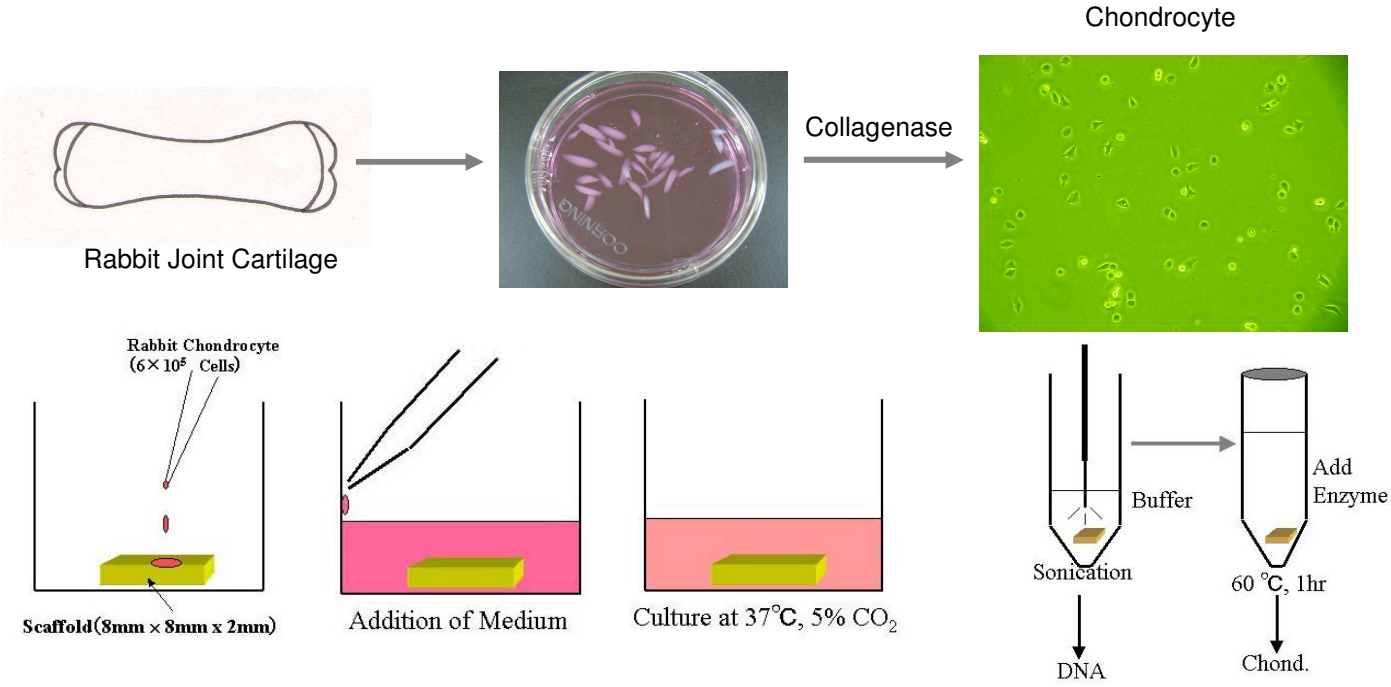
1. Prepare calibration curve by plotting fluorescent intensity against DNA concentration.

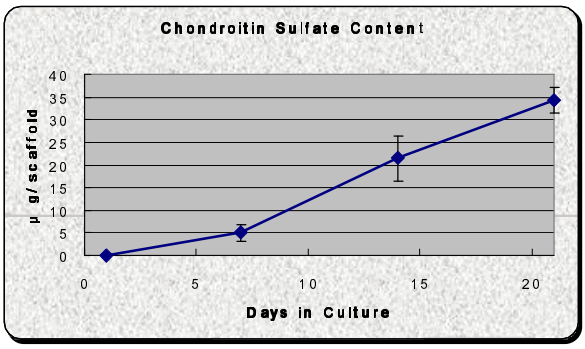
2. To determine cell numbers in a culture system, plot cell numbers against DNA content. Then extrapolate DNA concentration in your sample to determine cell number in your culture system.

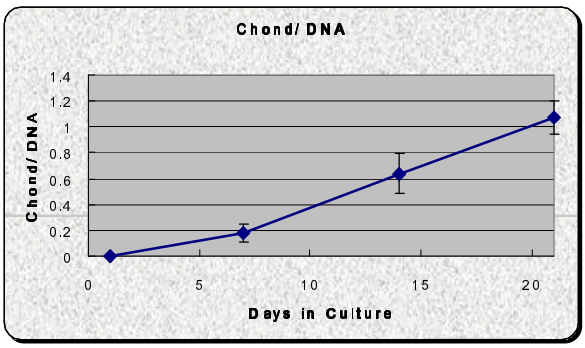


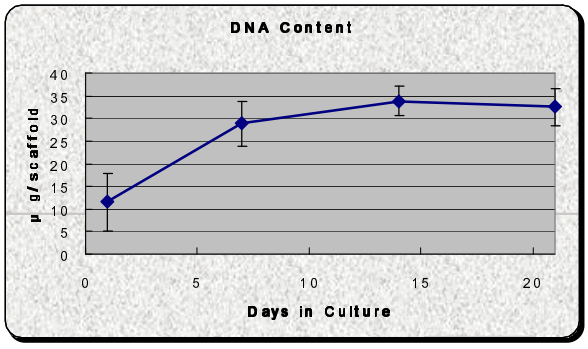
Example Experiment (used with our Acidic Mucopolysaccharide Kit, KT-007)

Measurement of Chondroitin Sulfate and DNA content in a Scaffold for Cartilage Tissue Regeneration









FOR RESEARCH USE ONLY

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