

PROTOBLOCK - A biological standard for formalin fixed samples

VALUE PROPOSITION

PROTOBLOCK permits, for the first time, a precise representation of biological material ‘before and after’ formalin-fixed, paraffin-embedded (FFPE) treatment and provides microbial community standards allowing for the detection or correction of any bias introduced during FFPE sample collection or processing.

THE TECHNOLOGY

PROTOBLOCK is a procedure for generation of bespoke mock FFPE ‘blocks’ which can be populated as desired by the user and whose contents are exposed to the same treatment conditions as typical FFPE tissue, undergoing the same DNA damage. These blocks can be populated with mammalian cells, Gram-positive and Gram-negative bacteria. The PROTOBLOCK features a mix of formalin fixed cells, of known number, embedded in an agar matrix and solidified to form a disk that is dehydrated, and paraffin embedded. The strategy has been validated and published in <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7443293/>

FFPE blocks are considered the gold standard for tissue storage in hospital settings, and their reliable use for DNA analyses could open up a trove of potential samples for research. FFPE tissue urgently requires the development of standards to ensure the validity of results and to promote reproducibility. None currently exist. PROTOBLOCK is the solution.

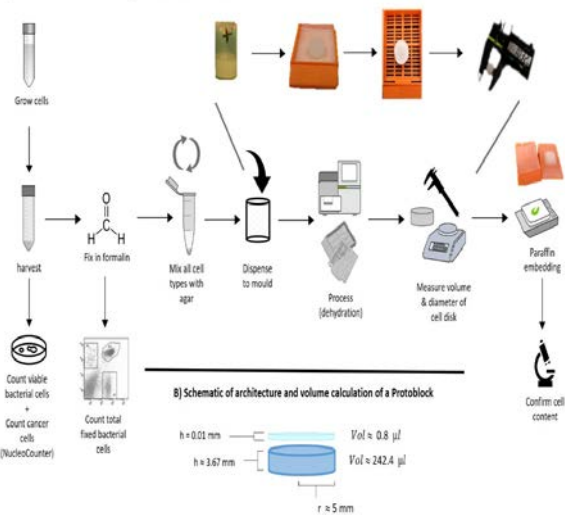
STATUS/DEVELOPMENT OBJECTIVES

The strategy has been validated with multiple Gram-positive and –negative bacteria and mammalian cells by microscopy, qPCR, 16S rRNA gene amplicon sequencing and whole genome sequencing.

See

<https://www.youtube.com/watch?v=f9Flyd2GJIw&feature=youtu.be>

A) Schematic of the manufacturing process of a Protoblock



FIELDS OF APPLICATION

Microbiome clinical sample analysis.

PATENT STATUS

Provisional patent filed GB2010373.5

FUNDING

