

Industry first technology makes the difference for Institut Curie



Institut Curie looks to 3M's 3D printed PTFE to aid in cancer treatment research

With degrees in pharmacy and hematology, Dr. Raphael Ceccaldi started his research in the heart of Paris at Institut Curie with a notable goal. Today, Dr. Ceccaldi's focus is to understand the molecular basis of the DNA repair mechanism to discover new ways to tailor cancer treatments. His research has been sponsored by INSERM (French National Institute of Health and Medical Research) and granted for a five-year investigation from the ERC (European Research Council) demonstrating the importance and support of this new and unique research method.

To get a closer look at the DNA structures, Dr. Ceccaldi uses fluorescent microscopy to study how broken DNA molecules can be repaired. This process requires DNA stretching on coverslips which need to be cleaned using highly aggressive media. Traditionally this had to be done one coverslip at a time because many holding fixtures cannot withstand the aggressive cleaning media and the slide holding fixture was unable to be manufactured with machined PTFE.



Challenge

Need for ultra-clean (protein-free) coverslips for DNA stretching



Solution

A 3D printed PTFE holding fixture that can hold up to 100 coverslips and withstand the aggressive cleaning process



Insight

The unique combination of high resolution and the chemical resistance of PTFE provides unmatched design freedom for custom parts



Why PTFE

PTFE can withstand the aggressive media needed for the process

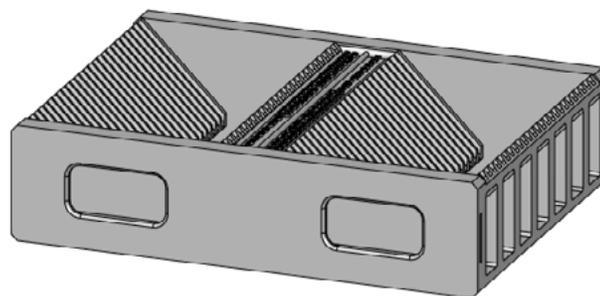


Industry

Processing Equipment for Medical Research

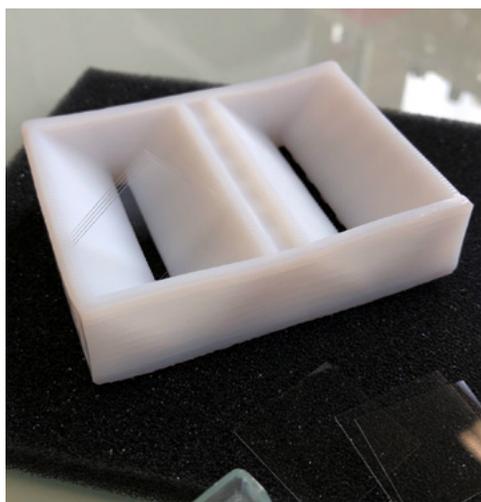
“3M’s coverslip holding fixture is essential to prepare the coverslips for holding DNA.”

-Dr. Raphael Ceccaldi



Utilizing 3M’s exclusive 3D printed PTFE technology, Dr. Ceccaldi’s lab can now clean up to 100 coverslips at a time with a 3D printed PTFE coverslip holding fixture. “The coverslips must be 100 percent clean and surface treated to allow the DNA to properly stick on the surface and get stretched,” states Dr. Ceccaldi. “3M’s coverslip holding fixture is essential to prepare the coverslips for holding DNA. “

The customized PTFE holding fixture enables the preparatory work for stretching DNA to be performed efficiently, saving valuable research time and aiding in the research and development of important alternative and innovative therapies for treating cancer. Dr. Ceccaldi’s team can now focus efforts on their cutting-edge research taking advantage of 3M’s industry first 3D printed PTFE.



3M Advanced Materials Division
3M Center
St. Paul, MN 55144 USA

3m.com/3dprinting

3M is a trademark of 3M Company.

Please recycle. Printed in USA © 3M 2019.
All rights reserved. Issued: 10/19
98-0213-6864-6