



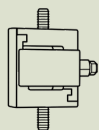
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# MechanoCulture T6

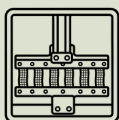
## Tension Stimulation Bioreactor



**Incubator-Ready**  
Tension Stimulation  
for Long-Term  
Culture



**Up to 200 N Force**  
Uniaxial  
Stimulation



**6 Separated Wells**  
For Media Control



**Mechanobiology | Tension Stimulation | Tissue Engineering**  
**Long-Term Culture | Biomaterials | High-Force Stimulation**

*Run programmable uniaxial stretch stimulation protocols on up to six clamp-mounted specimens while maintaining sterile, incubator-based culture conditions.*

  
**CellScale**  
biomaterials testing



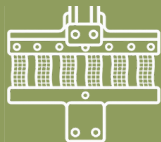
### High-Force Clamp-Based Stretching

Screw-driven grips secure specimens at each end for stable uniaxial stretch stimulation. Grip spacing and pull rods can be configured to support a range of specimen sizes, materials, and gauge lengths.



### PC-Independent Incubator Operation

Protocols are programmed on a PC and downloaded before the run, allowing the MCT6 to operate inside an incubator without an active computer connection during stimulation.



### Parallel Tension Stimulation

Up to six specimens can be stimulated in parallel under a shared stretch protocol, supporting efficient cohort studies, replicate conditioning, and tissue engineering workflows.

## How the MCT6 Works

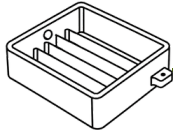
The MCT6 is designed for tensile stimulation and conditioning of specimens in culture. Samples are mounted between screw-driven clamps in a reusable culture chamber, placed on the controller, and run inside the incubator using a saved stretch stimulation protocol. The system applies displacement-driven stretch through a shared actuation platform, enabling up to six specimens to be conditioned in parallel under the same programmed regimen.

## Choose Your Model



| Specification       | Standard                                                            | 6-Well                                                                   |
|---------------------|---------------------------------------------------------------------|--------------------------------------------------------------------------|
| Specimen Capacity   | Up to 6 specimens                                                   | Up to 6 specimens                                                        |
| Culture Format      | Shared bath environment                                             | 6 individual wells/channels                                              |
| Specimen Size       | From 5 to 80 mm length                                              | From 5 to 80 mm length                                                   |
| Loading Capacity    | 200 N                                                               | 200 N                                                                    |
| Grip Separation     | Up to 80 mm                                                         | Up to 80 mm                                                              |
| Max Stretch         | 25 mm                                                               | 25 mm                                                                    |
| Max Velocity        | 20 mm/s                                                             | 20 mm/s                                                                  |
| Max Cycle Frequency | 2 Hz                                                                | 2 Hz                                                                     |
| Common Uses         | Tendon, ligament, musculoskeletal, and structural tissue constructs | Parallel cohorts requiring media separation or reduced sample cross-talk |

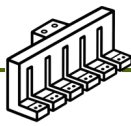
# Configure Your Workflow



## Chamber Format:

Choose Standard or 6-Well format based on:

- Media sharing or isolation needs
- Construct format
- Culture workflow



## Pull Rod Options:

Select pull rod options based on:

- Specimen gauge length
- Starting grip separation
- Target strain
- Construct format and alignment needs



## Programmable Control:

Build customizable tension regimens with:

- Constant-velocity stretch patterns
- Cyclic stretch stimulation
- Stretch, hold, recovery, and rest phases
- Defined frequency, cycle count, and duty cycle

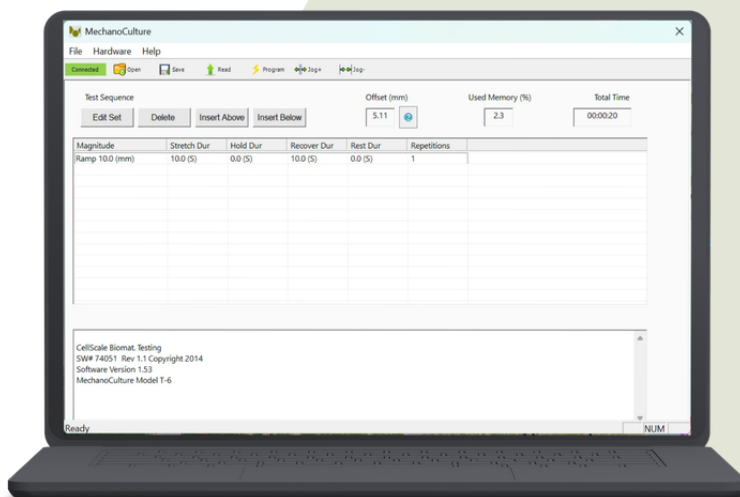


## Study Design:

Use the parallel specimen format for:

- Replicate conditioning studies
- Cohort and treatment group comparisons
- Long-duration tissue engineering workflows
- Shared-regimen mechanotransduction studies

## Protocol Documentation



Programmed stretch protocols provide a clear record of displacement magnitude, frequency, cycle count, rest periods, and total run duration for comparison across specimens, cohorts, and study time points.

*Use protocol records to document uniaxial stretch dosing, repeat conditioning regimens, and relate mechanical stimulation history to downstream biological outcomes.*

# MCT6 Applications

## Tissue Engineering and Soft Tissue Biomechanics

**Use controlled uniaxial stretch stimulation in:**

- tendon and ligament constructs
- musculoskeletal engineered tissues
- neural tissues
- cardiac and vascular tissue constructs
- cartilage and bone tissues

## Biomaterials and Advanced Materials

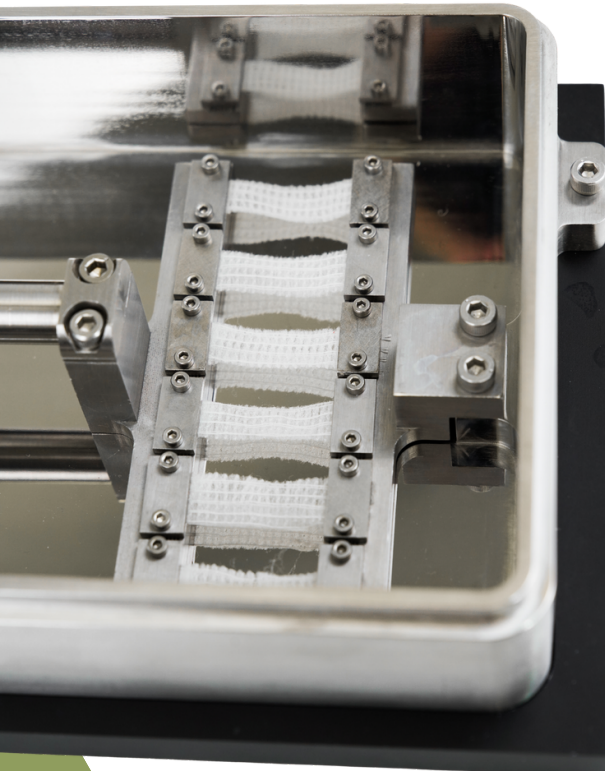
**Study stretch-conditioned response and adaptation in:**

- cell-laden hydrogels and scaffolds
- organ-on-a-chip and wearable bioelectronics
- electrospun materials
- ECM and decellularized matrices
- injectable and regenerative biomaterials

## Mechanobiology and Remodeling

**Compare biological response under controlled tension in:**

- mechanotransduction studies
- fibrosis and tissue remodeling
- stem cell mechanobiology
- durability-oriented conditioning workflows



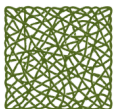
## Common Sample Types



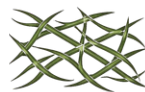
Tendon-Like  
Constructs



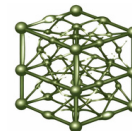
Hydrogels



Electrospun  
Mats



Membranes



Scaffolds



Neural  
Tissues



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## Book A Demo!

Talk with our team about specimen type, grip geometry, chamber format, and the best MCT6 configuration for your research.

