

# MICA BioSystems



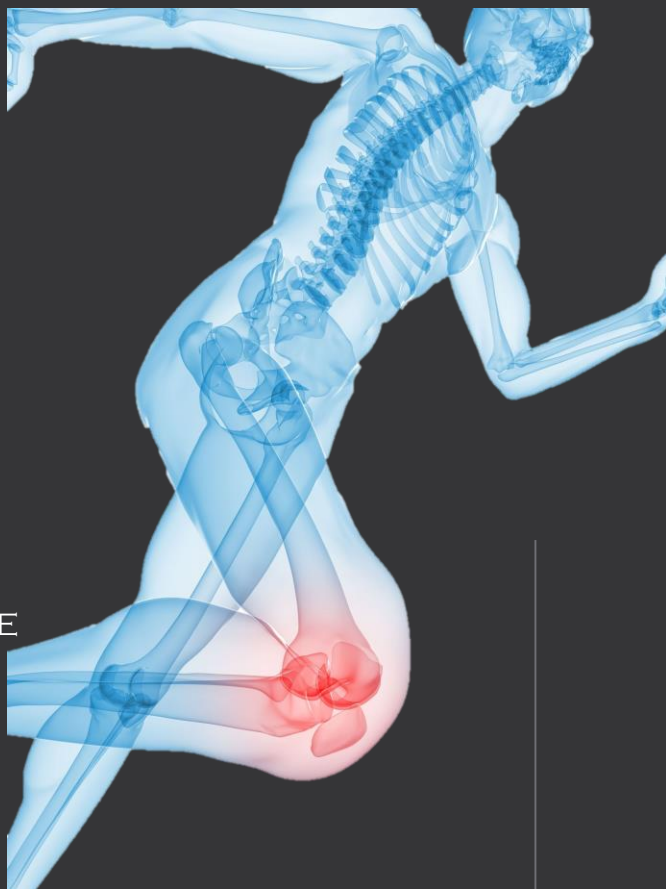
MICA BioSystems LTD

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ENABLING NEW APPROACHES TO TISSUE  
ENGINEERING AND REGENERATIVE MEDICINE,  
DRUG DISCOVERY AND THERAPY VIA NOVEL  
**M**MAGNETIC **I**ION **C**CHANNEL **A**CTIVATION

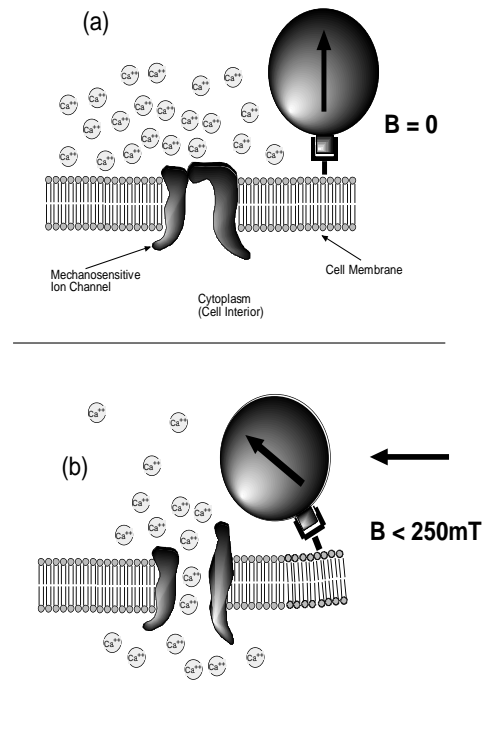
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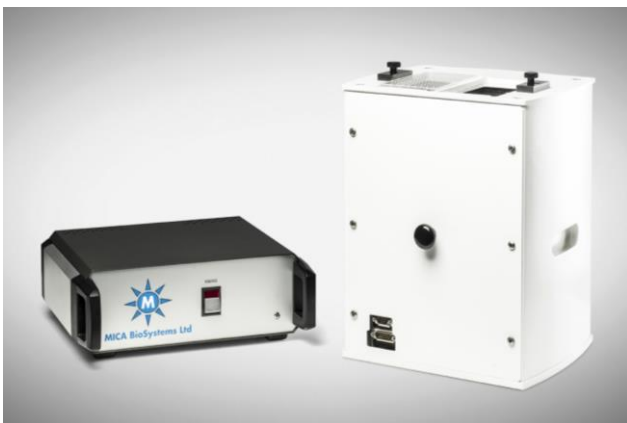
# MICA MAGNETIC FORCE BIOREACTOR

*The MICA™ System allows scientists to easily incorporate remote cell activation strategies into the development of their tissue engineering and regenerative medicine applications. The technology is also an important tool for drug screening, providing a more accurate analogue of the dynamic in vivo environment*



✧ Through novel patented technologies cell behaviour can be remotely controlled via nano-magnetic mechanical conditioning and activation of cells *in vitro*.

✧ Magnetic nanoparticles are linked to specific ion-channels/receptors of the cell (a) and manipulated by external magnetic field (b).



- ✓ Aligned to standard tissue culture plastic vessels.
- ✓ Multiple sample activation
- ✓ Continuous perfusion
- ✓ Non cell type specific
- ✓ Force applied at a cellular level.
- ✓ Multiple receptor targets
- ✓ Co-culturing and activation
- ✓ Complex tissue engineering strategies
- ✓ Customisation of stress profile
- ✓ Compact

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- Magnetic targeting of mechanosensors in bone cells for tissue engineering applications. Journal of Biomechanics 40: S96-S104. Dobson, J (2008)
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