

# Reconstructed Bone Marrow (rBone™)

## Multiple Myeloma (MM)



### rBone™ Basic 3D Matrix Pack

Kit contents: rBone™ matrix  
rEndosteum™ matrix

Cat. #10011

### rBone™ 3D Bioassay

Kit contents: rBone™ matrix Multiple Myeloma supplement  
rEndosteum™ matrix Cell Resuspension solution  
rBone™ cocktail Cell Isolation solution

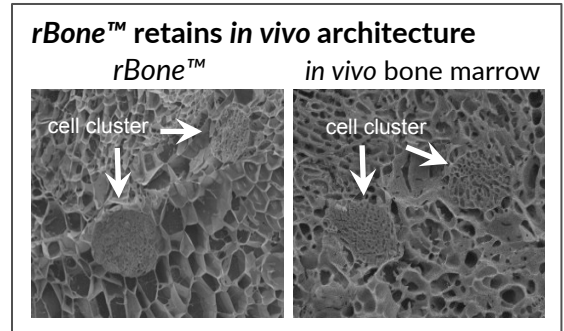
Cat. #10012

### Description:

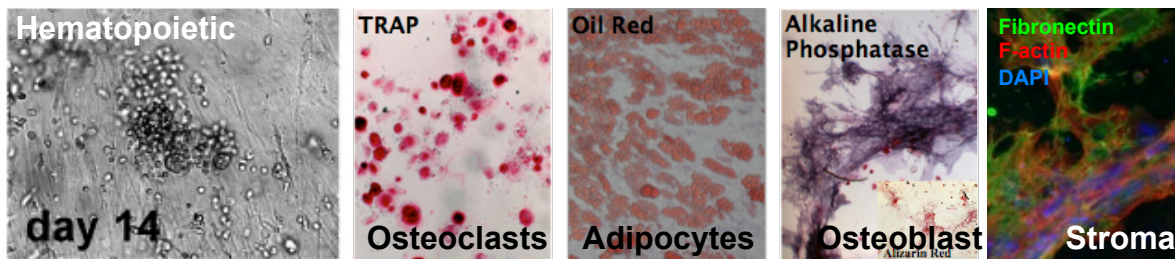
Reconstructed Bone Marrow (rBone™) platform recapitulates the comprehensive 3D microenvironment of the human bone marrow (both cellular, hematopoietic and stromal, and extracellular, soluble factors and extracellular matrix (ECM), compartments). In rBone™, the malignant clone and the entire complement of the bone marrow stroma (osteoblasts, osteoclasts, adipocytes, and stromal cells) undergo robust expansion while retaining the composition and 3D architecture of *in vivo* tissue. rBone™ maintains primary bone marrow cells for at least 21 days without loss of viability, and as such provides a unique platform to predict long-term effects and efficacy of new therapeutics under physiological conditions of human tissue microenvironment.

### Conventional non-physiological environment:

poor survival & lack of proliferation of primary multiple myeloma cells



rBone™ 3D Bioassay: robust long-term (>21 days) survival and proliferation of primary multiple myeloma cells



### Applications:

#### Basic 3D Matrix Pack:

- cell-cell interactions
- cell-ECM interactions
- tumor-stroma interactions
- cell-cytokine/growth factor interactions

#### Bioassay:

- Basic Pack applications, plus:
- drug testing
  - drug-resistance
  - immuno-oncology; CAR-T cells
  - cancer stem cells
  - toxicity

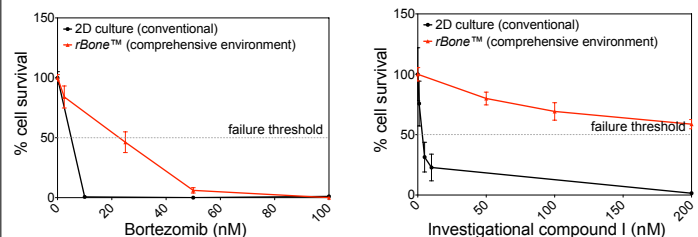
### Compatible with:

- microscopy
- flow cytometry
- nucleic acid/protein analysis
- genomics
- proteomics
- in vivo* studies

### Formats:

- fresh or frozen specimens
- can be set up in 6, 12, 24, 48, and 96, and 384-well tissue culture plates

rBone™ demonstrates high correlation with clinical response and mirrors the efficacy response seen in human trials.



Conventional and rBone™ preclinical models were utilized to evaluate the efficacy of bortezomib and Investigational Compound I. Bortezomib exhibited minimal resistance when evaluated in rBone™ and demonstrated both *in vivo* and clinical activity. Investigational compound I failed phase II efficacy clinical trial and demonstrated poor activity in rBone™ (rBone™ curve remains above the failure threshold).

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### Ordering information\*

To place an order, please contact us [orders@ixchelsci.com](mailto:orders@ixchelsci.com)

<b>rBone™ Basic 3D Matrix Pack (1ml)</b> <sup>1</sup>	<b>Cat. #10011-1ML</b>	<b>\$322</b>
<b>rBone™ Basic 3D Matrix Pack (5ml)</b> <sup>1,2</sup>	<b>Cat. #10011-5ML</b>	<b>\$1288</b>
<b>rBone™ Basic 3D Matrix Pack (10ml)</b> <sup>1</sup> Kit contents: rBone™ matrix rEndosteum™ matrix	<b>Cat. #10011-10ML</b>	<b>\$2342</b>
<b>rBone™ 3D Bioassay (5ml)</b> <sup>1,2,3</sup> Kit contents: rBone™ matrix rEndosteum™ matrix rBone™ cocktail Multiple Myeloma supplement Cell Resuspension solution Cell Isolation solution	<b>Cat. #10012-5ML</b>	<b>\$1589</b>

<sup>1</sup>Volume is listed for rBone™ matrix. All other kit components are provided in equivalent amounts.

<sup>2</sup>rBone™ (5ml) equivalent of the Basic 3D Matrix Pack and 3D Bioassay provide materials to set-up 1.5 96-well plates or one 48-, 24-, 12-, or 6-well plate

<sup>3</sup>Bioassay is available in a single rBone™ volume equivalent of 5ml

\*For a 20% academic discount, please request a quote at [orders@ixchelsci.com](mailto:orders@ixchelsci.com)

### References:

1. Kirshner J, et.al. A Unique 3-D Model for Evaluating the Impact of Therapy on Multiple Myeloma. 2008. *Blood*. 112:2935-45.
2. Kirshner, J, et.al. In a Patient With Biclonal Waldenström's Macroglobulinemia Only One Clone Expands in 3-D Culture and Includes Putative Cancer Stem Cells. 2011. *Leuk Lymphoma*. 52(2):285-9.
3. Gunn, EJ, et.al. The Natural Products, Parthenolide and Andrographolide, Exhibit Anti-Cancer Stem Cell Activity in Multiple Myeloma. 2011. *Leuk Lymphoma*. 52(6):1085-97.

Patent pending. **For Research Use Only**; not intended for diagnostic or therapeutic use.

### Contact us:

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