



# CrossLaps® for Culture ELISA

## Bone Resorption Marker (CTX-I) For Preclinical Research

### Screening of anti-resorptive drugs

- High throughput screening of osteoclastic resorptive activity
- Multiple testing of single osteoclast cultures over time
- Objective assessment of *in vitro* bone resorption
- High correlation to pit area

The CrossLaps® for Culture ELISA is used for quantitative assessment of bone resorption in osteoclast cultures. The assay detects C-telopeptide fragments of collagen type I (CTX-I) generated during osteoclastic bone resorption.

X-ray by The Royal Veterinary and Agricultural University, Dept. of Clinical Studies

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[www.nbdiagnostics.com](http://www.nbdiagnostics.com)

CrossLaps® for Culture  
ELISA

Urine CrossLaps®  
ELISA

Rat-MID™ Osteocalcin  
ELISA

Serum CrossLaps®  
ELISA

CartiLaps®  
ELISA

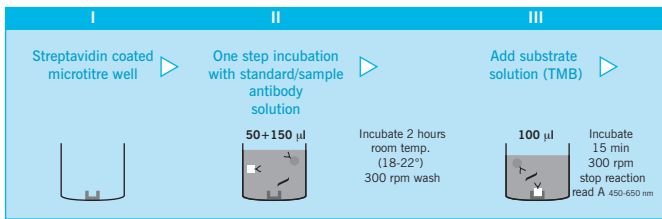
RatLaps™  
ELISA

N-MID® Osteocalcin  
ELISA



# CrossLaps® for Culture ELISA

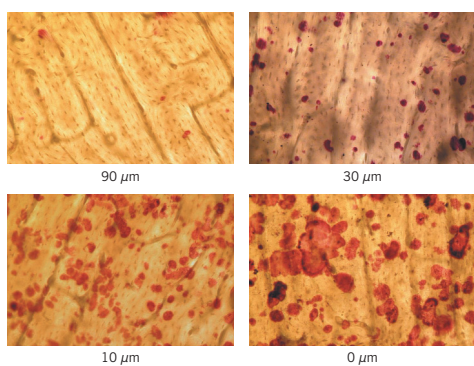
## ENZYME IMMUNOASSAY FOR QUANTITATIVE ASSESSMENT OF BONE DEGRADATION IN CELL CULTURE



### Performance Characteristics

- Method: • Sandwich ELISA
- Format: • 96-well microplate with reagents sufficient to test 40 samples in duplicate
- Detection limit: • 0.55 nM
- Analyte: •  $\beta$ -isomerized sequence (EKAMDGGR) specific for a part of the C-terminal telopeptide  $\alpha 1$  chain of type I collagen (CTX-I)
- Specimen: • Cell culture supernatant
- Specimen volume: • 50  $\mu$ l (prediluted 1:5)
- Precision CV intraassay: • 1,1 – 8,7%
- Precision CV interassay: • 3,4 – 6,1%
- Species Reactivity: • Human, bovine, horse, sheep, goat, pig, dog, elephant, chicken
- Shelf life: • 12 months
- Assay time: • Approx 3 hours

The CrossLaps® for Culture ELISA kit is for research use only.  
 Product number #6CRL4000.  
 Bone slices - Product number #1BON1000.

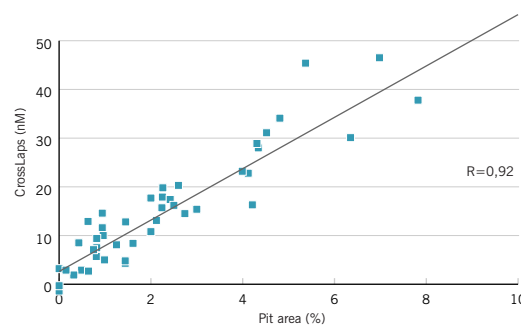


The anti-resorptive compound was added in different concentrations (90  $\mu$ M, 30  $\mu$ M, 10  $\mu$ M, 0  $\mu$ M) to osteoclasts plated on cortical bovine slices. After 6 days the osteoclasts were removed from the bone slices and these were stained with myosin hematoxylin to visualize the pit formation. Measuring CTX in the medium was used to quantify the pit formation (4).

### Assay Procedure

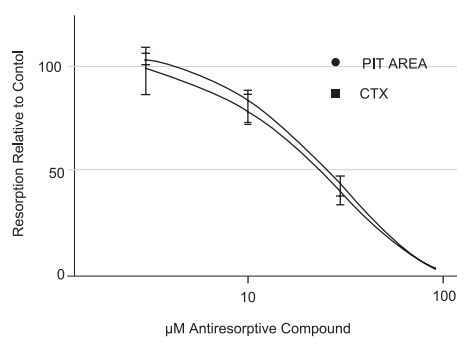
1. Prepare **Standard** and **Antibody Solution**.
2. Pipette 50 $\mu$ l of each **Standard**, **Control**, or unknown sample into appropriate wells followed by 150 $\mu$ l of the **Antibody Solution**. Cover the immunostrips with sealing tape and incubate for 120  $\pm$  5 minutes at 18-22  $^{\circ}$ C.
3. Wash the immunostrips 5 times with **Washing Buffer** diluted 1 + 50 in distilled water.
4. Pipette 100  $\mu$ L of the **Substrate Solution** into each well and incubate for 15  $\pm$  2 minutes at 18-22  $^{\circ}$ C in the dark on the mixing apparatus (300 rpm). Use sealing tape.
5. Pipette 100  $\mu$ L of the **Stopping Solution** into each well.
6. Measured the absorbance at 450 nm with 650 nm as reference within two hours.

### Use of CrossLaps® for Culture for monitoring the efficacy of anti-resorptive drug in osteoclast culture.



CTX monitored with CrossLaps® for Culture correlates with total area of resorption pits

### Crosslaps® for Culture enables the rapid identification of anti-resorptive effects of drug candidates.



LITERATURE: 1. HENRIKSEN ET AL. AM J PATHOL 164:1537-1545 (2004). 2. ISHIKAWA ET AL. J RHEUMATOL 31:1174-1179 (2004). 3. KARSDAL ET AL. AM J PATHOL 166:467-476 (2005). 4. SCHALLER ET AL. J BONE MINER RES 19:1144-1153 (2004). 5. SUSAN ET AL. J TRANSL MED 2:6 (2004).

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all the way

FROM RESEARCH TO PATIENT MONITORING

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