



# Measurement by vertical scanning profilometry of resorption volume and lacunae depth caused by osteoclasts on dentine slices

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Titre	Measurement by vertical scanning profilometry of resorption volume and lacunae depth caused by osteoclasts on dentine slices
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Auteur	Pascaretti-Grizon, Florence [1], Mabileau, Guillaume [2], Baslé, Michel-Félix [3], Chappard, Daniel [4]
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Mots-clés	Dentine slice [5], eroded surfaces [6], eroded volume [7], osteoclast [8], osteolysis [9], vertical scanning profilometry [10]
Résumé en anglais	<p>The resorption pit assay is classically used to evaluate osteoclast activity on bone or dentine slices that can be eroded by these cells. Two different types of cells were generated from peripheral blood mononuclear cells cultured in the presence of M-CSF + sRANKL or with M-CSF + LPS. At the end of the culture period (21 days), cells were discarded and the dentine slices stained with toluidine blue and examined with an NT9100 Wyco vertical scanning profilometer. The images of the dentine surface were corrected for tilt and the eroded volume was calculated on the whole images. The depth of the eroded pits was determined. The data files were used to reconstruct the surface of the slices by standardizing the ground level to compare both conditions. Osteoclasts generated with M-CSF + sRANKL were capable of resorbing a more important volume than those generated with M-CSF + LPS. In addition, the formers were able to resorb the dentine matrix more deeply. Data provided by the microscope were used to reconstruct three-dimensional images of the dentine slices with pseudo colours varying with the depth of erosion. Vertical scanning profilometry, a technique used to measure the roughness of polished or etched surfaces in metallurgic industry, can be used to accurately measure the eroded volume and the mean erosion depth done by osteoclasts in the resorption pit assay.</p>
URL de la notice	<a href="http://okina.univ-angers.fr/publications/ua3328">http://okina.univ-angers.fr/publications/ua3328</a> [11]
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## Liens

- [1] <http://okina.univ-angers.fr/f.pascaretti/publications>
- [2] <http://okina.univ-angers.fr/guillaume.mabileau/publications>
- [3] [http://okina.univ-angers.fr/publications?f\[author\]=3650](http://okina.univ-angers.fr/publications?f[author]=3650)
- [4] <http://okina.univ-angers.fr/daniel.chappard/publications>
- [5] [http://okina.univ-angers.fr/publications?f\[keyword\]=7302](http://okina.univ-angers.fr/publications?f[keyword]=7302)
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