

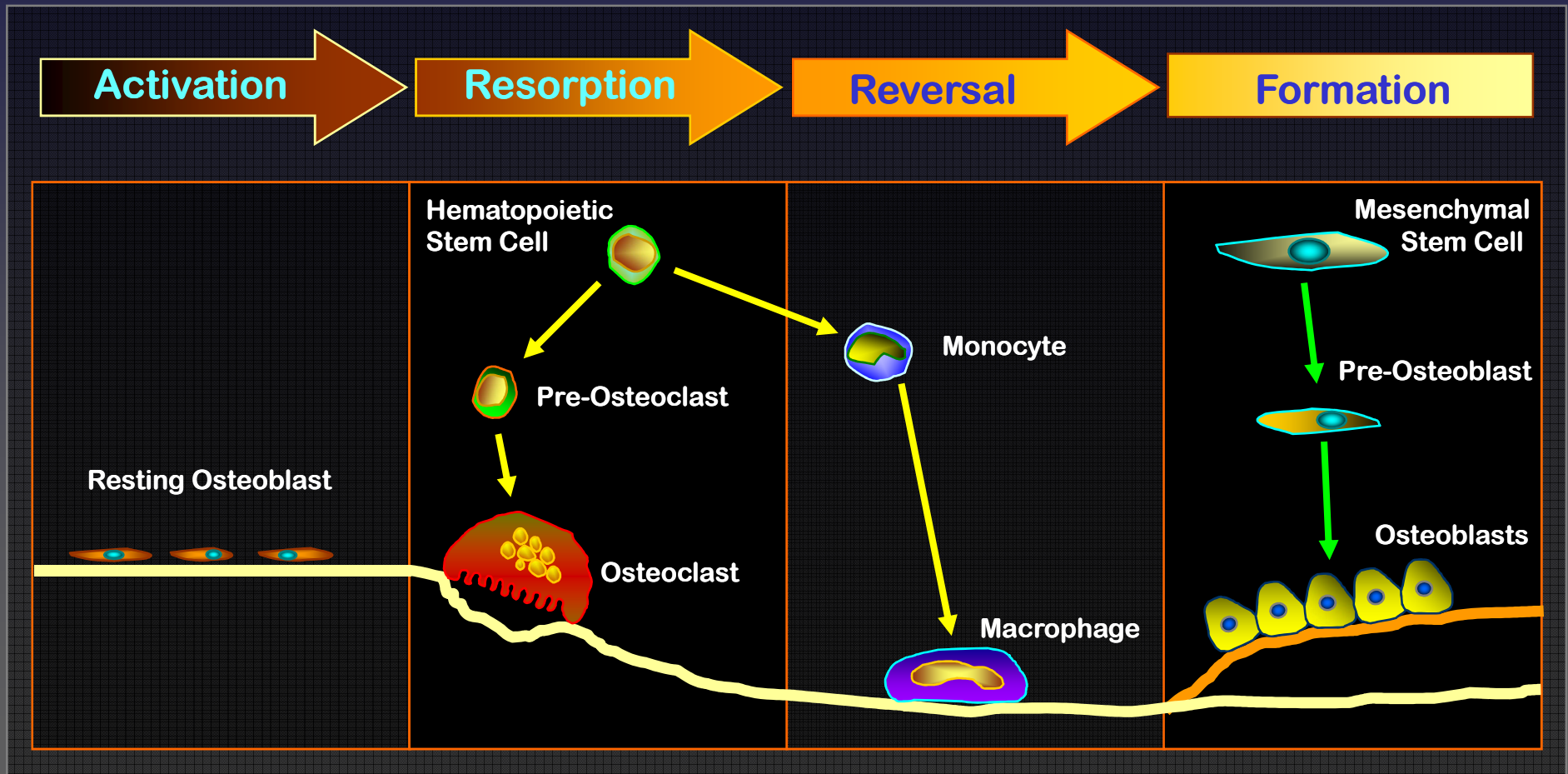
Metastasi Ossee: Zoledronato endovena o Ibandronato orale?



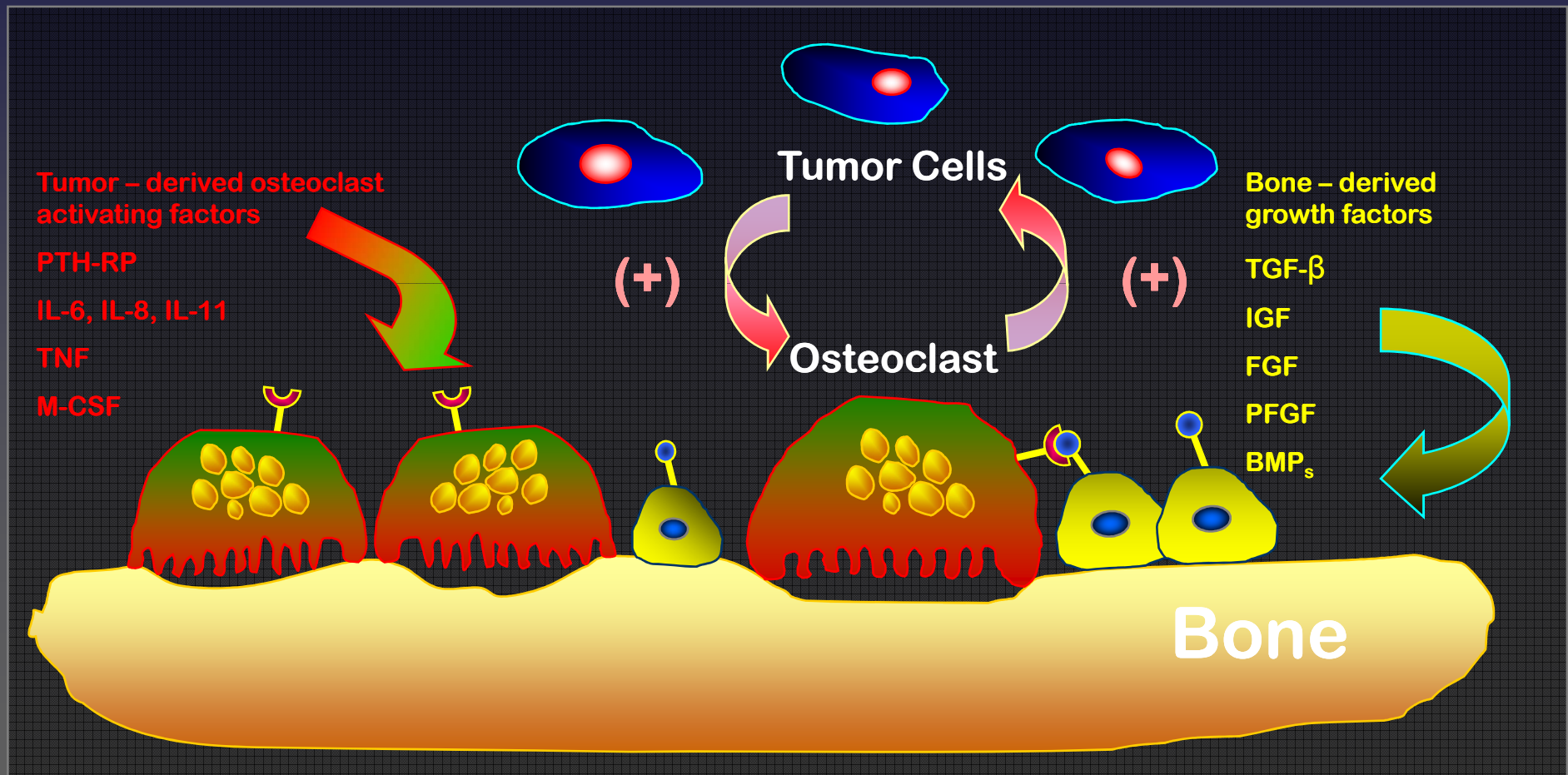
Università degli Studi di Palermo
Dottorato di Ricerca in Oncologia Clinica Sperimentale Applicata e
Morfologia dei Tumori
Prof. Nicolò Gebbia

Filippo Francini

Bone Remodeling

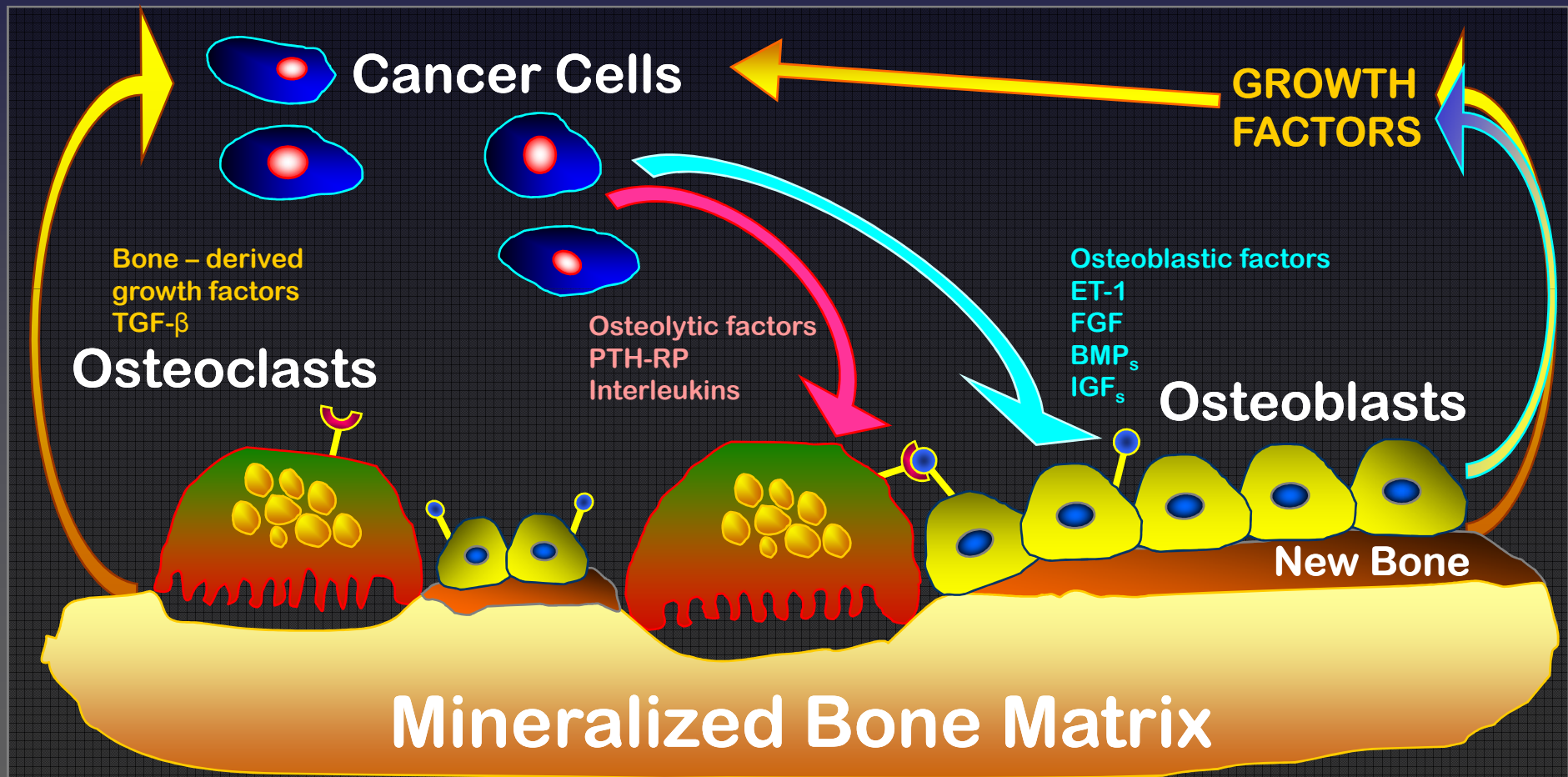


Pathogenesis of Predominantly Osteoclastic Metastases

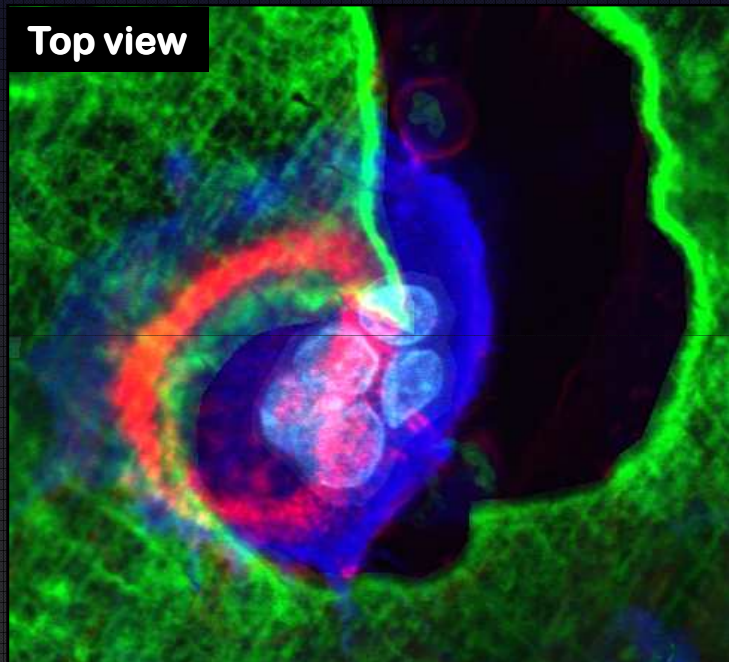


Adapted from Lipton A, Clin Cancer Res, 2006

Pathogenesis of Predominantly Osteoblastic Metastases

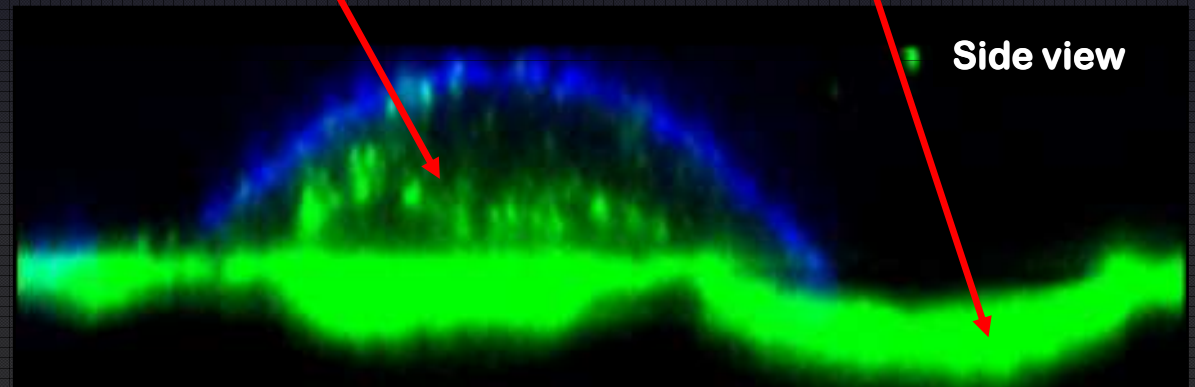


Bisphosphonates Are Internalised by Osteoclasts During Bone Resorption



Intracellular BP

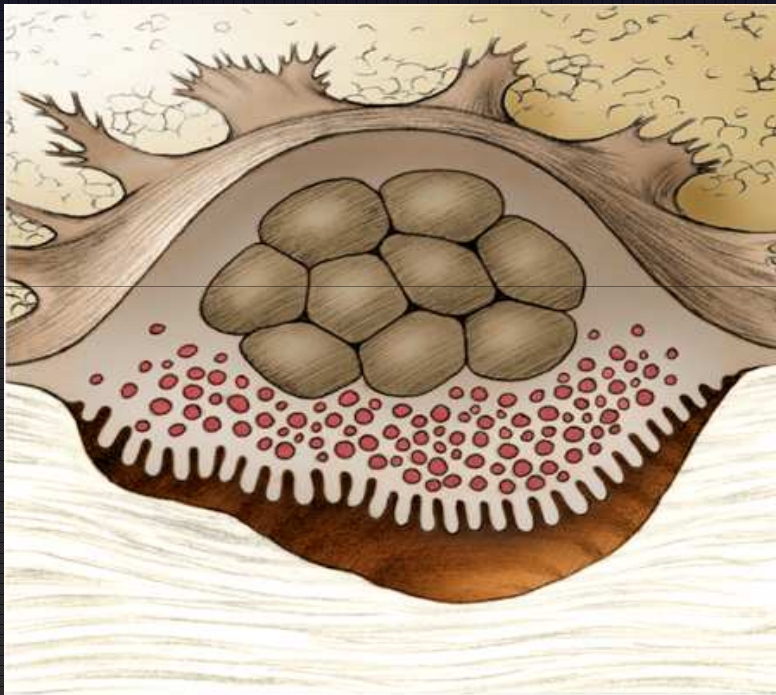
Resorption pit



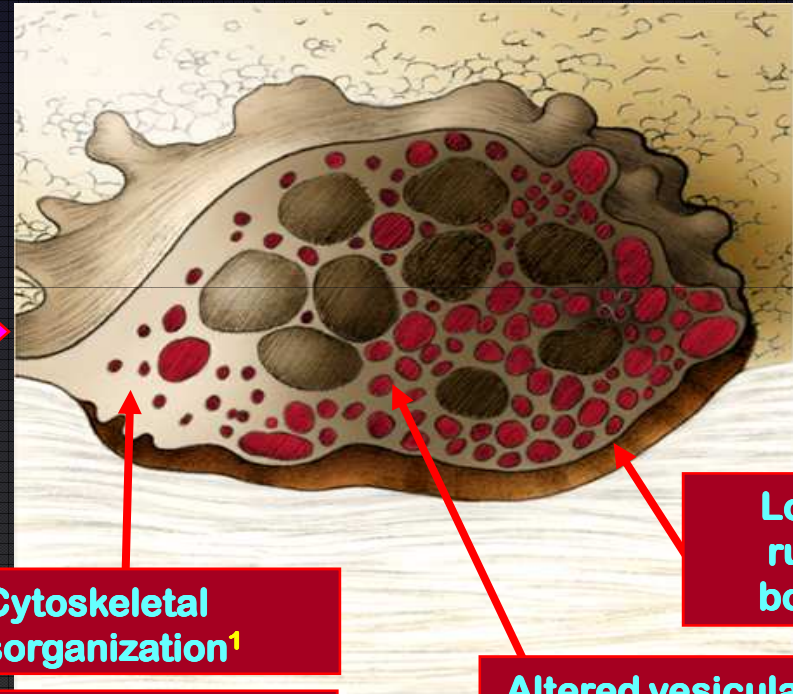
- Bisphosphonate (bone surface)
- Osteoclast membrane and nuclei
- Cytoskeleton

Effects of Bisphosphonates on Osteoclast Function

Normal Osteoclast



Osteoclast Following Uptake of Bisphosphonate



Cytoskeletal
disorganization¹

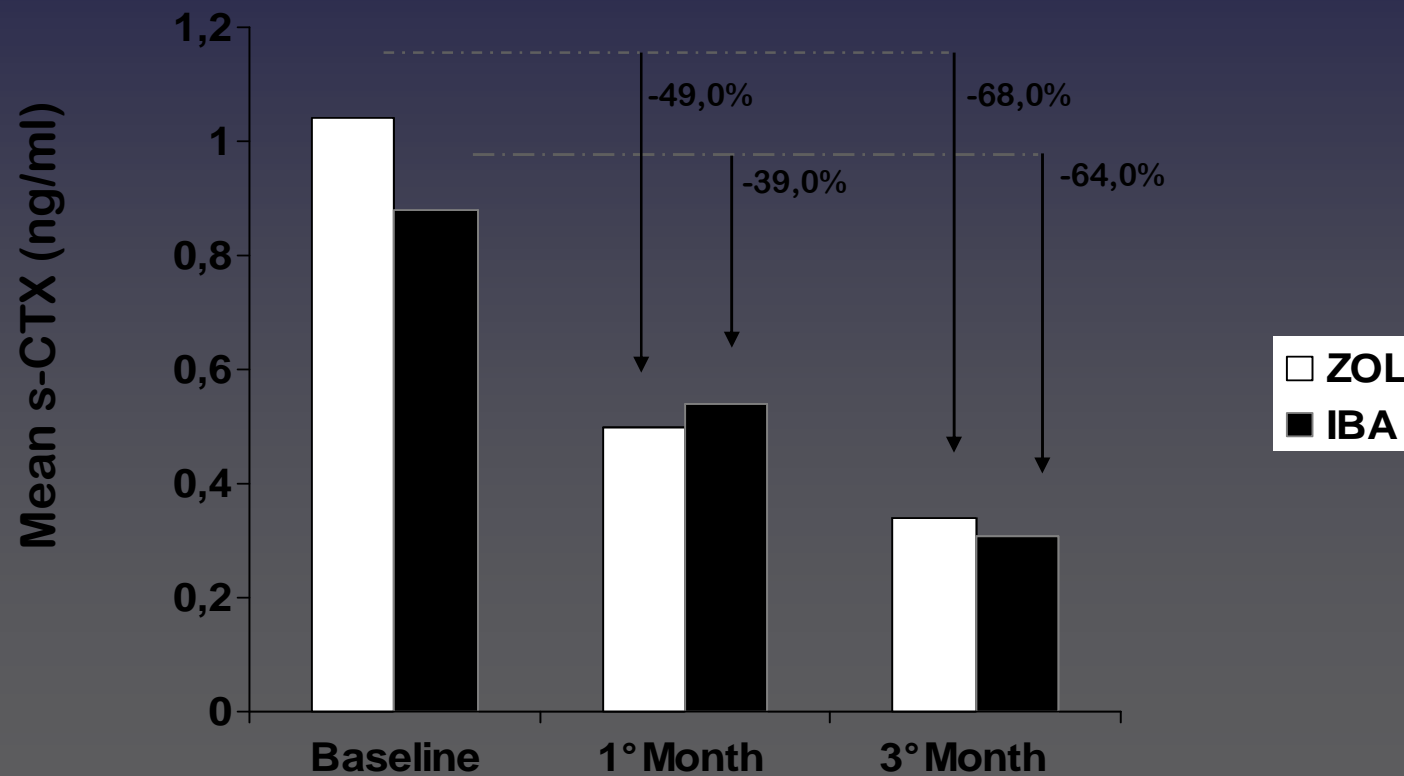
Cell death by apoptosis²

Altered vesicular
trafficking³

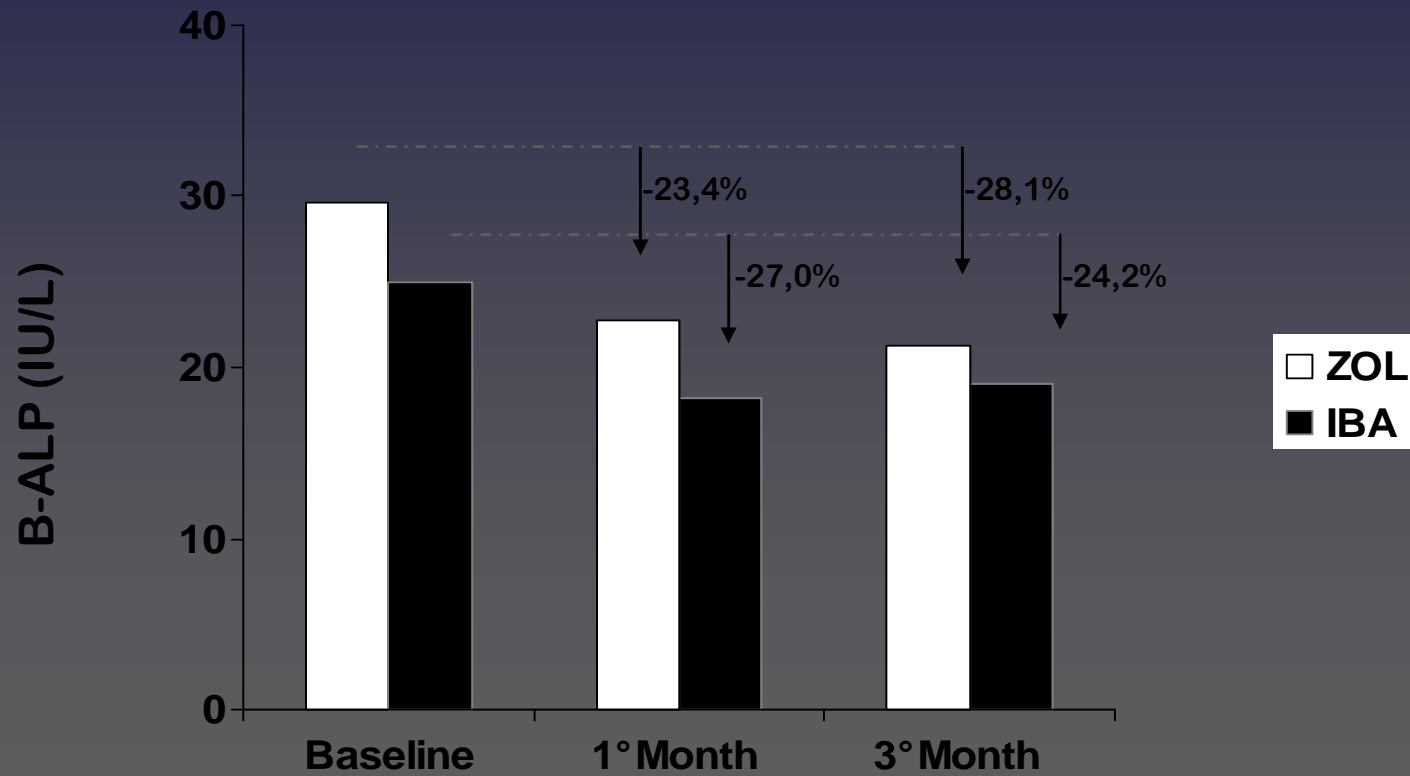
Loss of
ruffled
border¹

1. Sato, M, et al. *J Clin Invest.* 1991;88:2095-2105. 2.
2. Hughes DE, et al. *J Bone Miner Res.* 1995;10:1478-1487.
3. Rogers M. *Curr Pharm Des.* 2003;9:2643-2658.

s-CTX.....



B-ALP.....



Bisphosphonates-associated ONJ

