

Article

Analysis of Cellular Activity and Induction of Inflammation in Response to Short-Term Exposure to Cobalt and Chromium Ions in Mature Human Osteoblasts

Anika Jonitz-Heincke ^{1,*}, Marie-Luise Sellin ¹, Anika Seyfarth ¹, Kirsten Peters ², Brigitte Mueller-Hilke ³, Tomas Fiedler ⁴, Rainer Bader ¹ and Annett Klinder ¹

¹ Biomechanics and Implant Technology Research Laboratory, Department of Orthopedics, Rostock University Medical Centre, Doberaner Strasse 142, Rostock 18057, Germany

² Department of Cell Biology, Rostock University Medical Center, Schillingallee 69, Rostock 18057, Germany

³ Institute for Immunology, Rostock University Medical Center, Schillingallee 70, Rostock 18057, Germany

⁴ Institute for Medical Microbiology, Virology and Hygiene, Rostock University Medical Center, Schillingallee 70, Rostock 18057, Germany

* Correspondence: anika.jonitz-heincke@med.uni-rostock.de; Tel.: +49-381-494-9306

Supplementary Figures

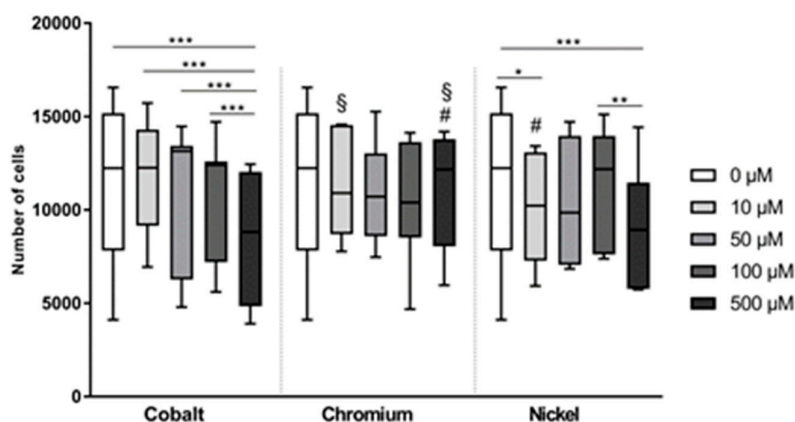


Figure S1: Cell numbers of human osteoblasts after exposure to metal salts. Untreated cells served as controls (0 µM). Osteoblasts were treated with different concentrations of Co(2+), Cr(3+) and Ni(2+) over 48 h. Afterwards cell number was determined via CyQUANT NF Cell Proliferation Assay. Data are depicted as box plots (n = 7). Significance was calculated with concentration-dependent differences: *p < 0.05, **p < 0.01, ***p < 0.001; differences to cobalt: *p < 0.05; differences to nickel: §p < 0.05.

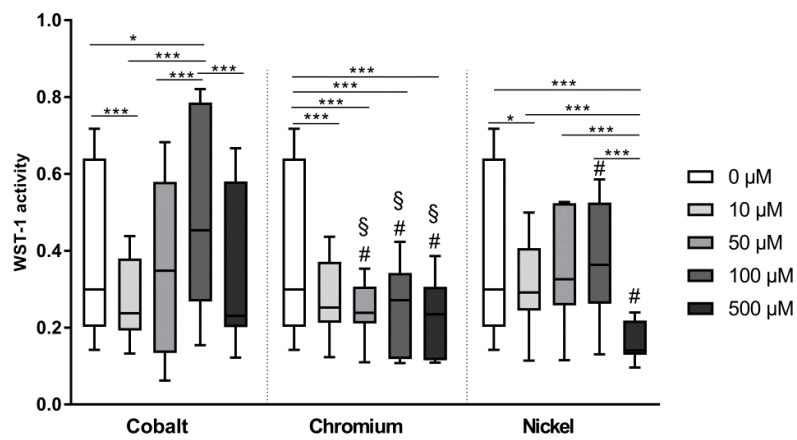


Figure S2: Metabolic activity of human osteoblasts after exposure to metal salts. Untreated cells served as controls (0 µM). Osteoblasts were treated with different concentrations of Co(2+), Cr(3+) and Ni(2+) over 48 h. Afterwards metabolic activity was determined via water soluble tetrazolium salt (WST-1) assay. Data are depicted as box plots (n = 7). Significance was calculated with concentration-dependent differences: *p < 0.05, ***p < 0.001; differences to cobalt: #p < 0.05; differences to nickel: §p < 0.05.