

SUPPLEMENTARY MATERIAL

Chitosan-Graphene Oxide 3D scaffolds as Promising Tools for Bone Regeneration in Critical-Size Mouse Calvarial Defects

Anca Hermenean^{1,2*}, Ada Codreanu¹, Hildegard Herman², Cornel Balta², Marcel Rosu², Ciprian Mihali², Alexandra Ivan³, Sorina Dinescu⁴, Mariana Ionita⁵, Marieta Costache⁴

¹Department of Histology, Faculty of Medicine, Vasile Goldis Western University of Arad, 86 Rebreanu, 310414 Arad, Romania

²Department of Experimental and Applied Biology, Institute of Life Sciences, Vasile Goldis Western University of Arad, 86 Rebreanu, 310414 Arad, Romania

³Department of Functional Sciences, Victor Babes University of Medicine and Pharmacy, 300041 Timisoara

⁴Department of Biochemistry and Molecular Biology, University of Bucharest, 91-95 Splaiul Independentei, 050095 Bucharest, Romania

⁵Advanced Polymer Materials Group, University Politehnica of Bucharest, Calea Victoriei 147, Bucharest 010737, Romania

* Corresponding author: Department of Histology, Faculty of Medicine, Vasile Goldis Western University of Arad, 86 Rebreanu, 310414 Arad, Romania,
e-mail address: anca.hermenean@gmail.com

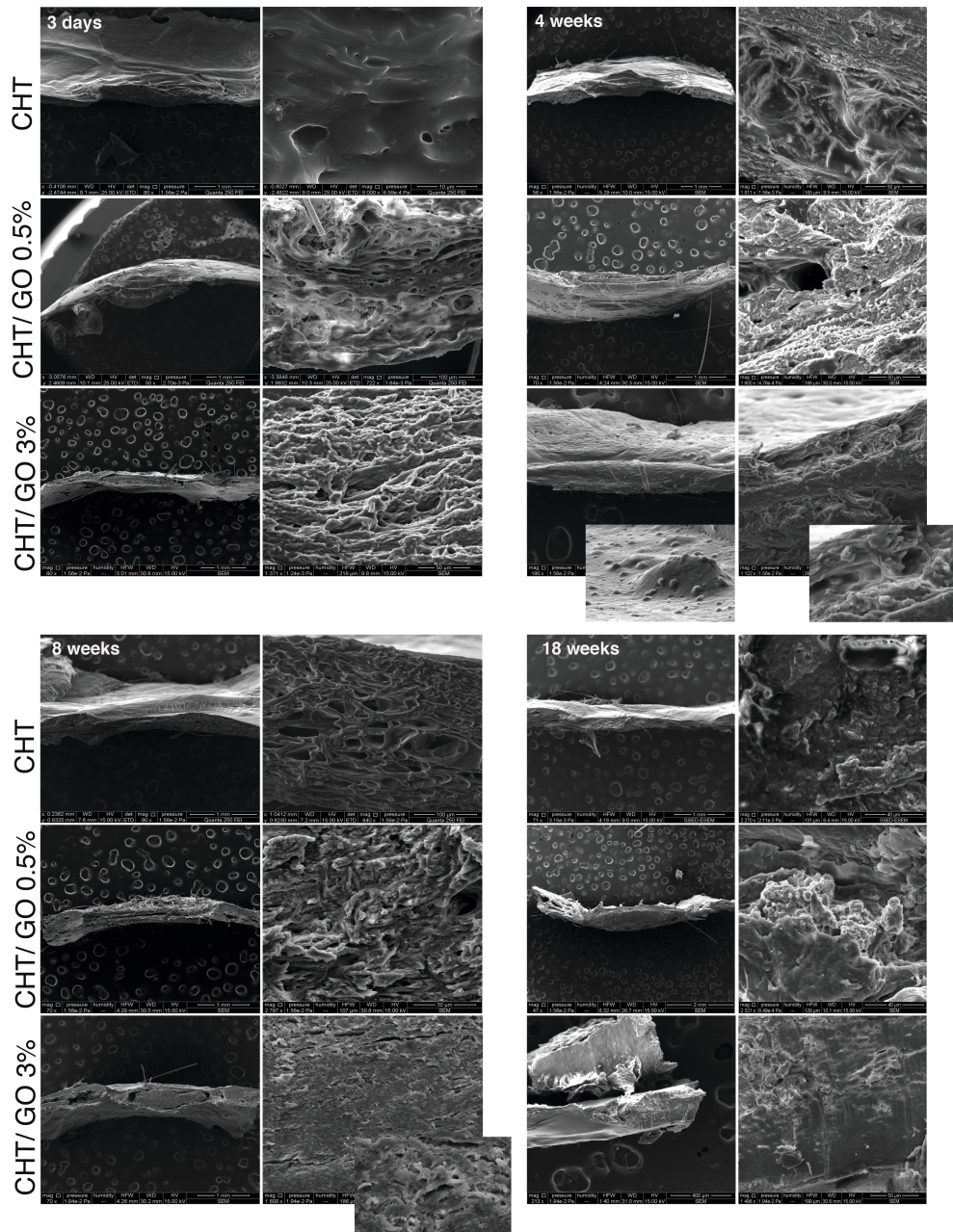


Figure 1: SEM micrographs of the *in vivo* bone samples taken after 72 hours, 4, 8 and 18 weeks after CHT, CHT/GO 0.5 wt% and CHT/GO 3.0 wt.% scaffold implantation (*all time-intervals*)

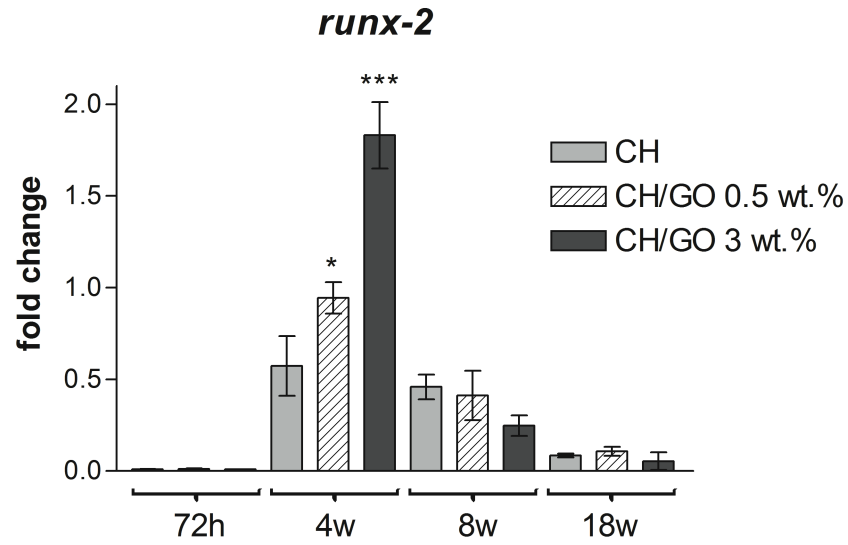


Figure 2: mRNA expression of Runx-2 at 72h, 4 weeks, 8 weeks and 18 weeks after CHT, CHT/GO 0.5 wt% and CHT/GO 3.0 wt.% scaffold implantation

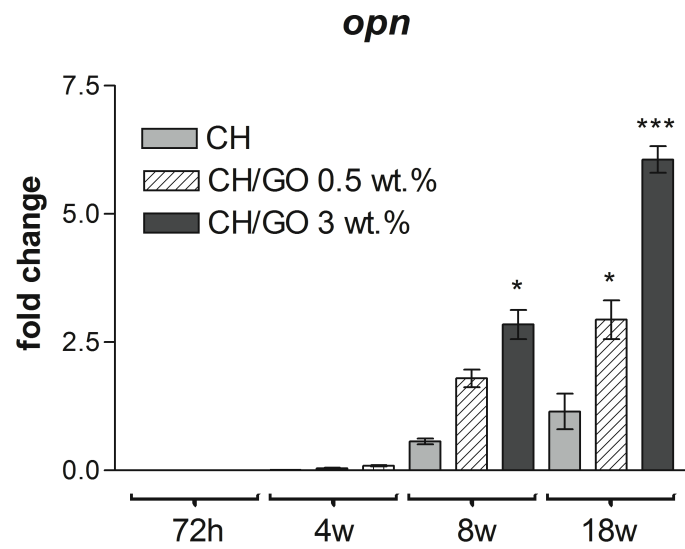


Figure 3: mRNA expression of OPN at 72h, 4 weeks, 8 weeks and 18 weeks after CHT, CHT/GO 0.5 wt% and CHT/GO 3.0 wt.% scaffold implantation

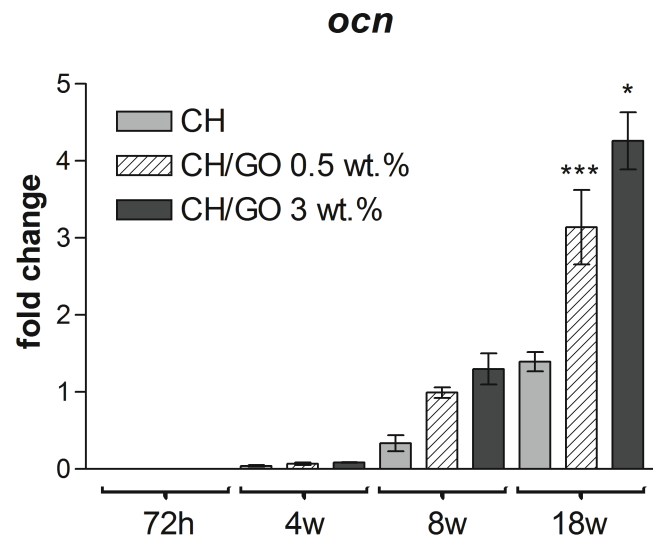


Figure 4: mRNA expression of OCN at 72h, 4 weeks, 8 weeks and 18 weeks after CHT, CHT/GO 0.5 wt% and CHT/GO 3.0 wt.% scaffold implantation

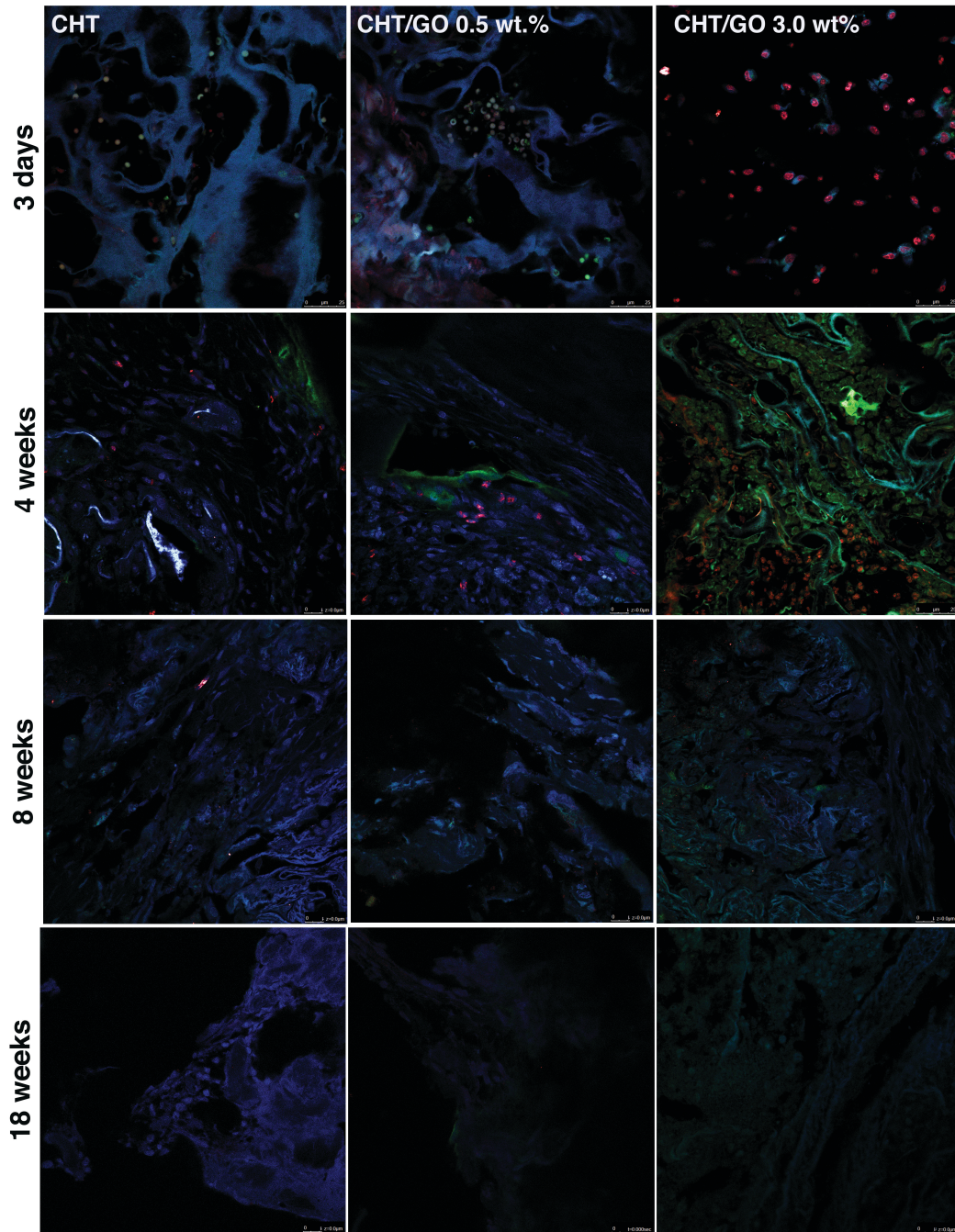


Figure 5: Immunohistochemical expression of BMP-2 and Runx-2 at 72h, 4 weeks, 8 weeks and 18 weeks after CHT, CHT/GO 0.5 wt.% and CHT/GO 3.0 wt.% scaffold implantation

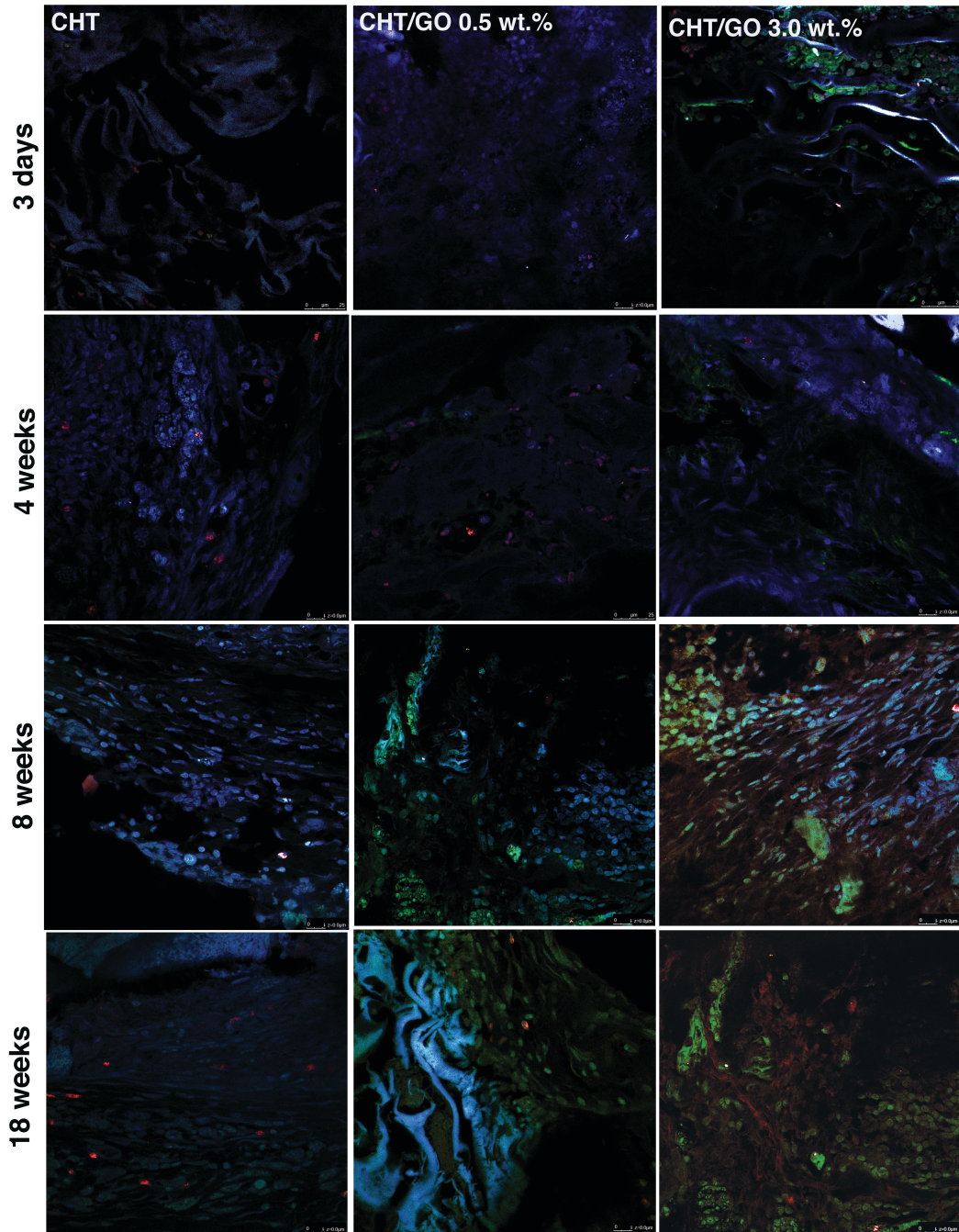


Figure 6: Immunohistochemical expression of OPN and OCN at 72h, 4 weeks, 8 weeks and 18 weeks after CHT, CHT/GO 0.5 wt% and CHT/GO 3.0 wt.% scaffold implantation