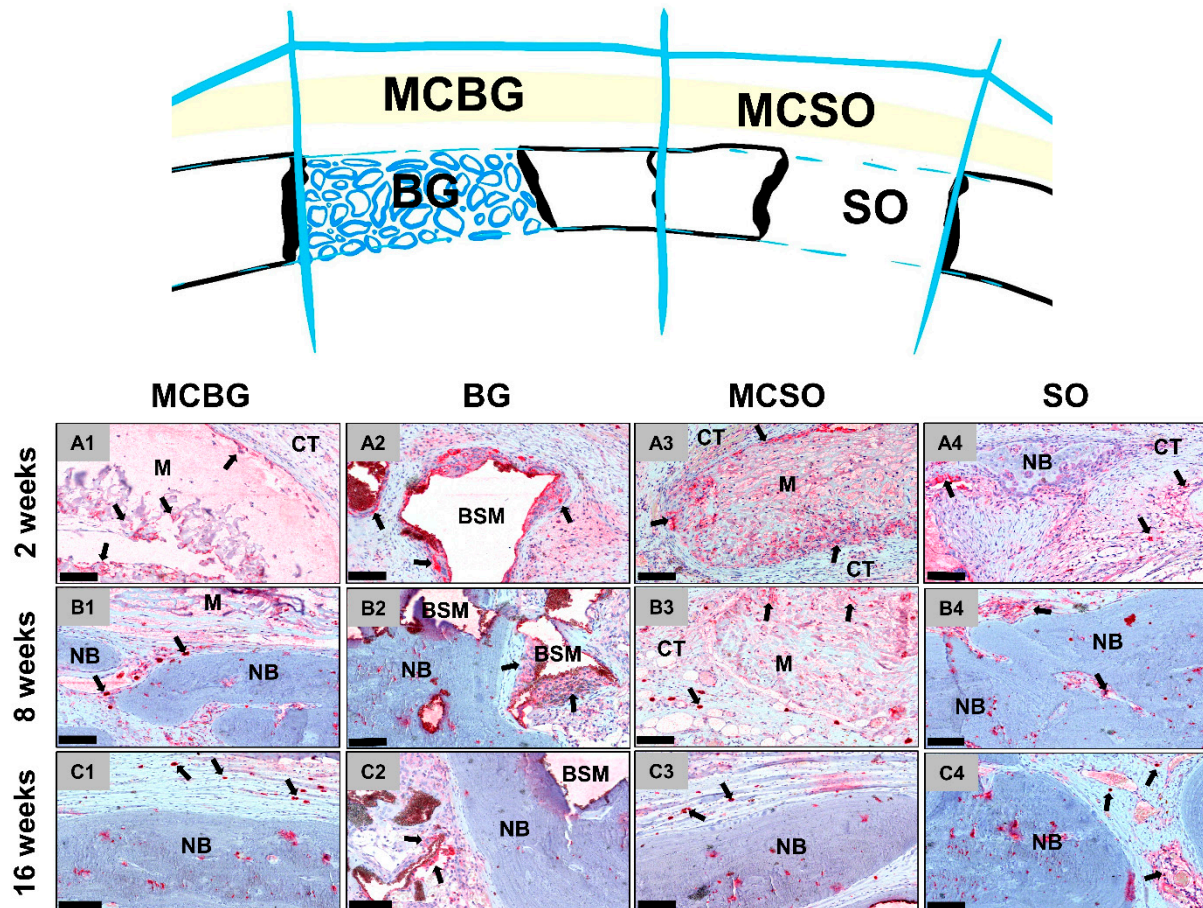
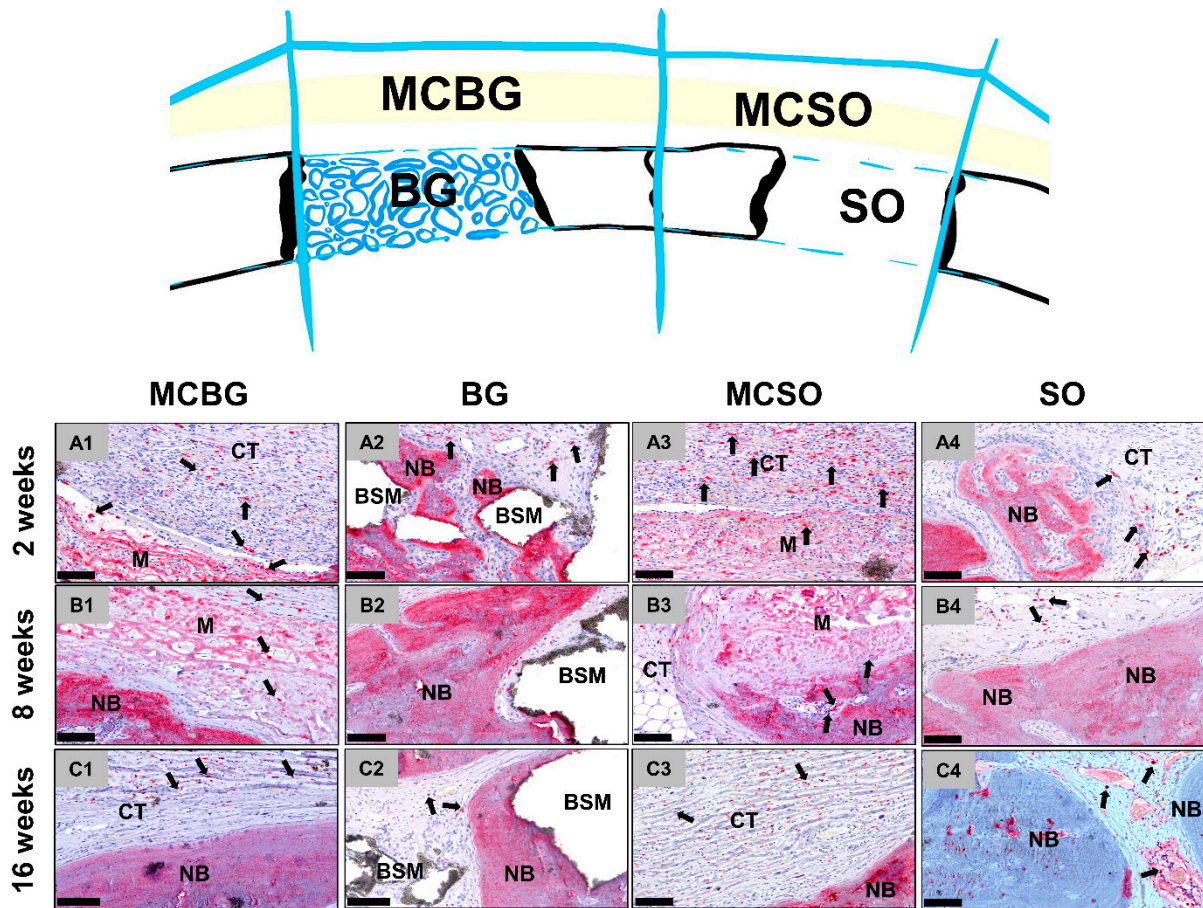


# Analyses of the Cellular Interactions between the Ossification of Collagen-Based Barrier Membranes and the Underlying Bone Defects

## Supplementary Figures

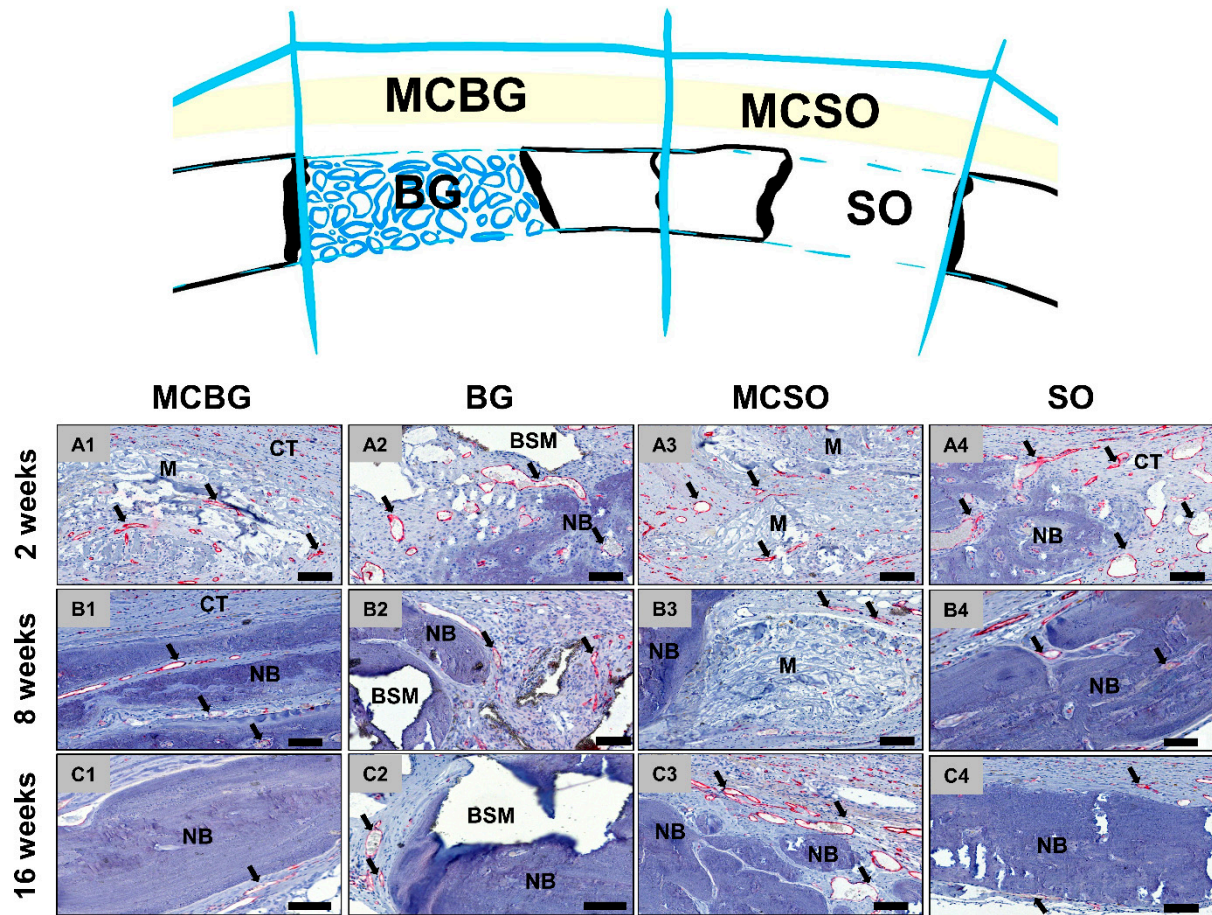


**Supplementary Figure S1.** Histological images of the pro-inflammatory immune response in the four compartments at (A1-A4) 2, (B1-B4) 8, and (C1-C4) 16 weeks *post implantationem*. Left row: Tissue responses within the membrane compartment above the implant defect (MCBG). Left center row: Tissue responses within the BSM-filled bone defects (BG). Right center row: Tissue responses within the membrane compartment above the sham operation defects (MCSO). Right row: Tissue responses within the sham bone defects (SO). M = membrane, BSM = bone substitute material, NB = new bone, CT = connective tissue, and black arrows = positive cells. (CD11c-immunostaining, 200× magnification, scale bars = 100 μm).

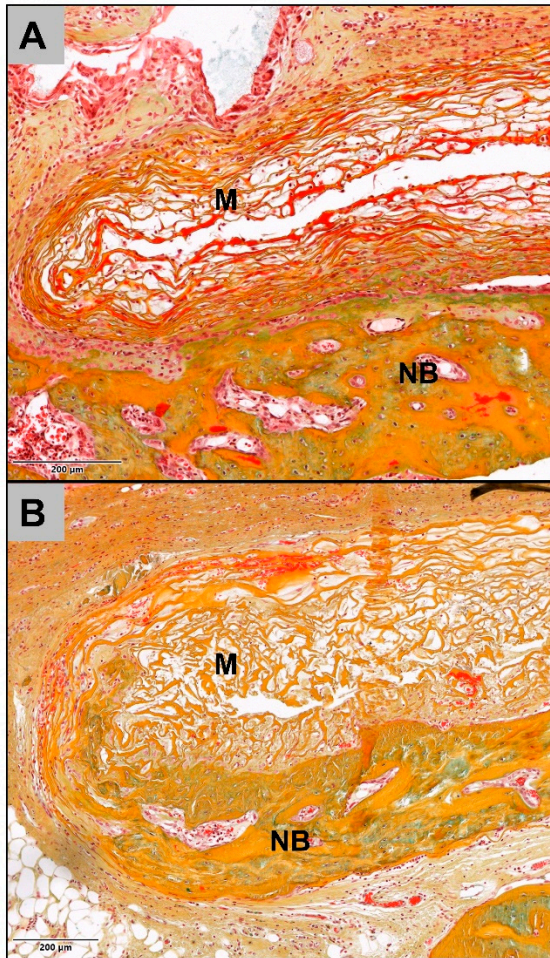


**Supplementary Figure S2.** Histological images of the anti-inflammatory immune response in the four compartments at (A1-A4) 2, (B1-B4) 8, and (C1-C4) 16 weeks *post implantationem*. Left row: Tissue responses within the membrane compartment above the implant defect (MCBG). Left center row: Tissue responses within the BSM-filled bone defects (BG). Right center row: Tissue responses within the membrane compartment above the sham operation defects (MCSO). Right row: Tissue responses within the sham bone defects (SO). M = membrane, BSM = bone substitute material, NB = new bone, CT = connective tissue, and black arrows = positive cells. (CD163-immunostaining, 200× magnification, scale bars = 100  $\mu$ m).





**Supplementary Figure S3.** Histological images of the vascularization patterns in the four compartments at (A1-A4) 2, (B1-B4) 8, and (C1-C4) 16 weeks *post implantationem*. Left row: Vessels within the membrane compartment above the implant defect (MCBG). Left center row: Vessels within the BSM-filled bone defects (BG). Right center row: Vessels within the membrane compartment above the sham operation defects (MCSO). Right row: Vessels within the sham bone defects (SO). M = membrane, BSM = bone substitute material, NB = new bone, CT = connective tissue, and black arrows = positive cells. (CD31-immunostaining, 200× magnification, scale bars = 100 μm).



**Supplementary Figure S4.** Exemplary histological images showing the transition of collagen to bone tissue at **(A)** 2 and **(B)** 8 weeks. M = membrane, NB = new bone. (Movat's Pentachrome-staining, 130× magnification).