

Supplementary information

Mineralized collagen plywood contributes to bone autograft performance

In the format provided by the authors and unedited

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	Col40	Col100	Col-CHA
Probe diameter (μm)	105	51	51
Lever stiffness (N/m)	0.45	0.26	0.26
Maximum indentation depth (μm)	12±2	4±1	1.0±0.5
Maximum applied force (μN)	0.3±0.1	0.25±0.05	0.9±0.3
Contact radius (μm)	34±5	14±2	9±3
Number of indentation tests in the statistical analysis	265	230	183
Median of the local Young modulus (kPa)	0.21	46	101
Average of the local Young modulus (kPa)	0.28	43	176
Standard deviation of the local Young modulus (kPa)	0.21	13	340

Supplementary Table S1. Parameters and statistical analysis of indentation tests for Col40, Col100, and Col-CHA. The full data sets are shown in Extended Data Fig. 6.

	ColCG-CHA (n=12)	MG (n=5)	VO (n=5)	AB (n=5)
Overall ossification image analysis from von Kossa-stained sections	30.4%±7.63	23.7%±12.6	32.0%±17.4	32.8%±9.2
New bone maturity (score 0 to 5)	3.1±0.3	2.6±0.9	2.2±1.1	4.2±0.8
Residual material quantity Col-CHA or ceramics (score 0 to 5)	3±1	2.2±0.4	1.6±1.1	1.4±1.1
Osteoid production/osteoblastic activity at the interface with biomaterials (score 0 to 5)	3.6±0.5	0.8±0.4	2.0±0	0.8±1.5
Inflammatory infiltrate (score 0 to 5)	0.6±0.9	0.6±0.5	1.4±0.9	0.4±0.5
Fibrosis (score 0 to 5)	1.2±0.9	0.8±0.8	1.6±1.3	1.2±1.3

Supplementary Table S2. Histopathological evaluation (ewe study N°2). Scoring for the four materials (ewe study N°2): ColCG-CHA, MG, VO, and AB.