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ERRATUM

Erratum to: Collagens VI and XII form complexes mediating osteoblast interactions during osteogenesis

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In the original publication of this paper, Figs. 5 and 6 were interchanged.
Please see below for the correct presentation:

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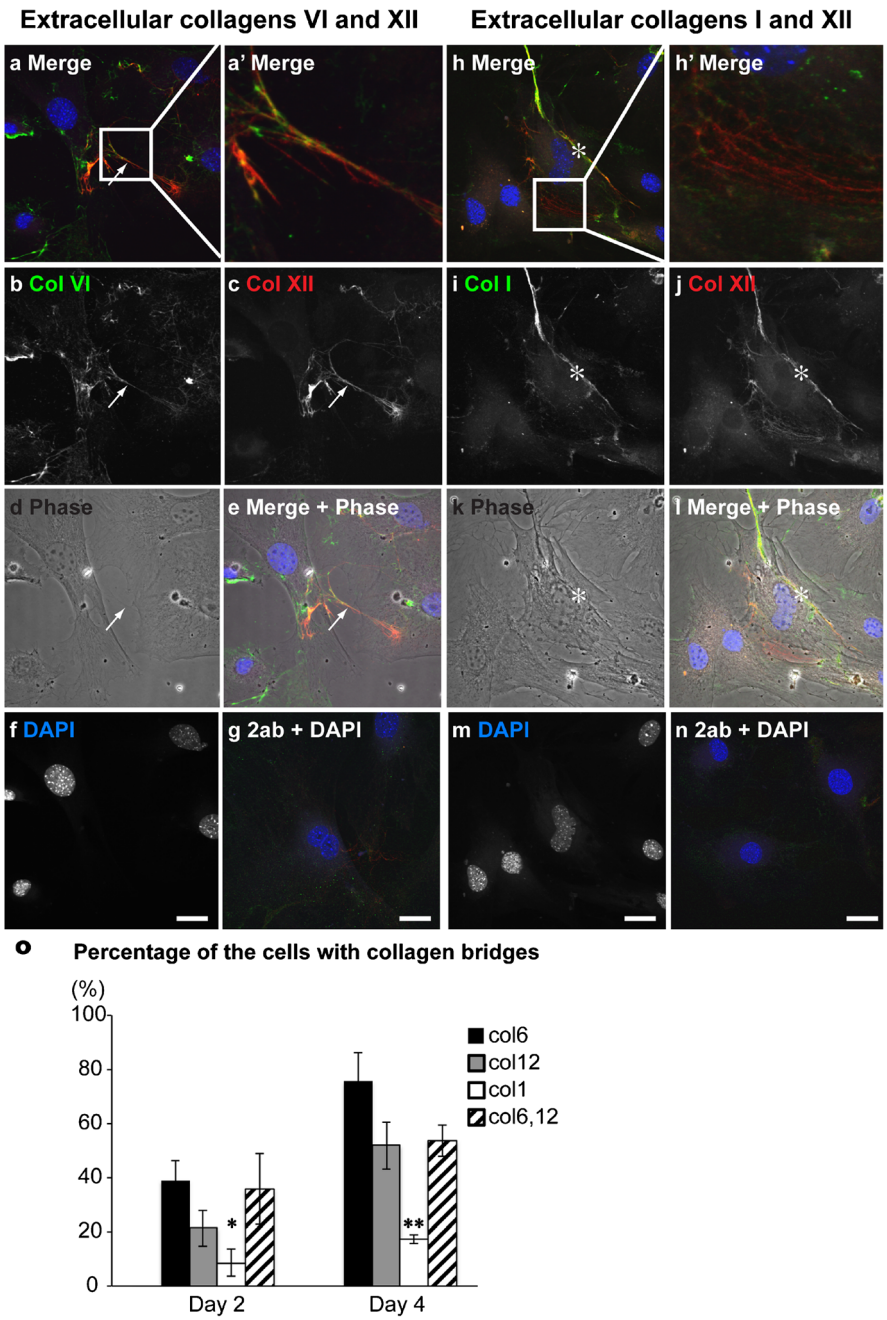

Fig. 5 Matrix bridge formation is specific for collagens VI and XII but not collagen I under osteogenic conditions. Confocal images of double immunostaining for collagens VI and XII (**a-g**) and collagens I and XII (**h-n**) in primary osteoblasts cultured for 4 days under osteogenic conditions without permeabilization. DAPI (*blue*) and phase contrast (*gray*) were used to detect nuclear localization and cell shape, respectively. Osteoblasts stained with secondary antibodies and DAPI were used as a negative control (2ab + DAPI). The merged image demonstrates the localization of collagens VI (*green*) and XII (*red*) in a matrix bridge between adjacent cells (*arrows* in **a-e**). The high-magnification image in the inset demonstrates partial colocalization of collagens VI and XII (**a'**). As shown in the merged image, colocalization of collagens I (*green*) and XII (*red*) was detected pericellularly (*asterisks* in **h-l**). The high-magnification image in the inset demonstrates collagen XII localization between adjacent cells but not collagen I (**h'**). Bars 25 μm. The number of cells connected via collagens VI, XII and I was analyzed in immunofluorescence images after cultured in osteogenic medium for 2 and 4 days (**o**). The mean percentages of cells that had collagen bridges were calculated based on the total number of cells observed in each image. Ten digital images were used from cells immunostained for collagen I, VI, XII, or VI and XII. Measurements were performed in triplicate. The number of cells with collagen VI or XII bridges was higher than that with collagen I bridges on day 2. In addition, the percentage of cells that had both collagens VI and XII was significantly higher than that which had collagen I bridges. The number of cells with collagen VI, collagen XII, or both collagens VI and XII was increased, whereas that of cells with collagen I did not change on day 4. Statistical analysis revealed that the number of cells with collagen VI and/or collagen XII matrix bridges was significantly higher than that with collagen I on day 2 (*p<0.06) and 4 (**p<0.005)

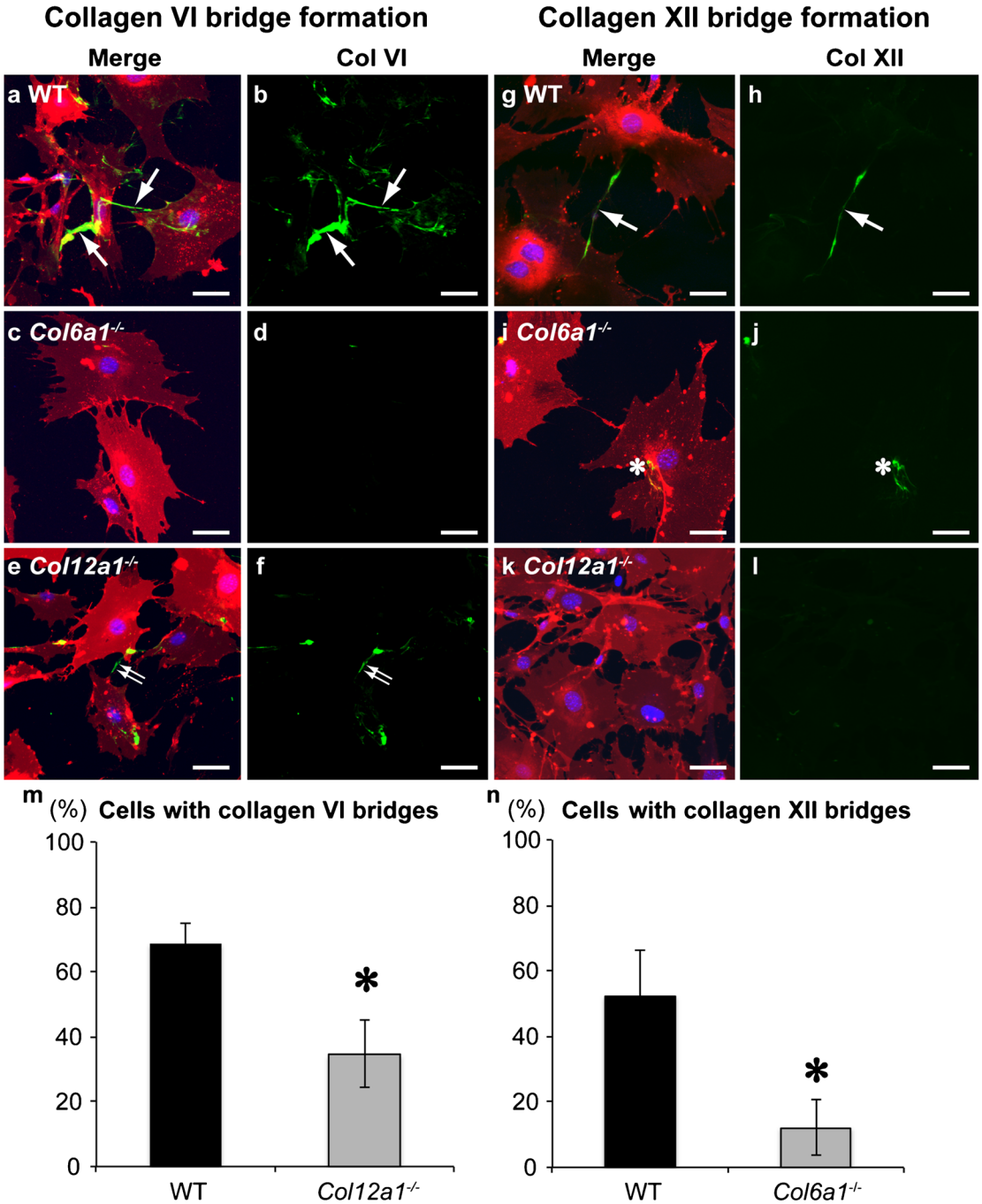

Fig. 6 Collagen VI or XII deficiency disrupts matrix bridge formation. Primary osteoblasts obtained from wild-type (WT), *Col6a1*$^{-/-}$, or *Col12a1*$^{-/-}$ mice were cultured in osteogenic medium for 4 days and were then immunostained for collagen VI (**a-f**) and XII (**g-l**) with DiI (*red*) and DAPI (*blue*). Collagen VI (*green*) bridge formation (*arrows*) between adjacent cells was detected in osteoblasts from WT mice (**a, b**). In contrast, most collagen VI was accumulated on the cell surface and a few fine bridges (*double arrows*) were detected in *Col12a1*$^{-/-}$ osteoblasts (**e, f**). Similar to collagen VI staining in *Col12a1*$^{-/-}$ osteoblasts, collagen XII (*green*) expression was limited in *Col6a1*$^{-/-}$ osteoblasts (*asterisks* in **i, j**). Note the collagen XII matrix bridge (*arrow*) **g, h**. Bars 50 μm Quantification of collagen bridges (**m, n**). The percentage of cells harboring collagen bridges was calculated based on immunostaining on day 4. Collagen VI bridge formation was significantly decreased in *Col12a1*$^{-/-}$ osteoblasts compared with WT osteoblasts (**m**). Similarly, collagen XII bridge formation was significantly decreased in *Col6a1*$^{-/-}$ osteoblasts (**n**). *p<0.02