

Supplementary Video 4: Movie showing a scan through a z-stack image of NO^{Hi}CD150⁺ HSCs (yellow) localized at CD200^{Hi} capillaries (magenta) at the endosteal surface of the metaphysis. Red: Alexa 568-CD150. Green: DAF-FM. Grey: BV421-Lin/CD48. Cyan: FITC-EMCN. Magenta: Q655-CD200. The scale bar indicates 20 μ m.

Supplementary Video 5: Movie showing a scan through a z-stack image of NO^{Hi}CD150⁺ HSCs (yellow) localized at CD200^{Hi} capillaries (magenta) at the endosteal surface in the diaphysis. CD200^{Hi} capillaries (magenta) transit to diaphysis sinusoids (blue). Red: Alexa 568-CD150. Green: DAF-FM. Grey: BV421-Lin/CD48. Blue: Alexa 648-IB4. Magenta: Q655-CD200. The scale bar indicates 20 μ m.

Supplementary Video 6: Movie showing a scan through a z-stack image of NO^{Low}CD150⁺ HSCs (red) localizing at Type H vessels (cyan) in the metaphysis. Red: Alexa 568-CD150. Green: FITC-DAF-FM. Grey: BV421-Lin/CD48. Blue: Alexa 648-IB4. Magenta: Q655-CD200. The scale bar indicates 20 μ m.

Supplementary Video 7: Movie showing a scan through a z-stack image of NO^{Low}CD150⁺ HSCs (red) localized at sinusoids (blue) in the metaphysis. Red: Alexa 568-CD150. Green: FITC-DAF-FM. Grey: BV421-Lin/CD48. Blue: Alexa 648-IB4. Magenta: Q655-CD200. The scale bar indicates 20 μ m.

Supplementary Video 8: Movie showing a scan through a z-stack image of NO^{Hi}TdTomato⁺ HSCs (yellow) at CD200^{Hi} capillaries (magenta) at the metaphysis endosteum in tamoxifen-treated *Pdzk1ip^{creER} × ROSA26TdTomato* mice. Red: Alexa 568-CD150. Green: FITC-DAF-FM. Grey: BV421-Lin/CD48. Cyan: FITC-EMCN. Blue: Alexa 648-IB4. Magenta: Q655-CD200. The scale bar indicates 20 μ m.

Supplementary Video 9: Movie showing a scan through a z-stack image of NO^{Hi}TdTomato⁺ HSCs (yellow) at CD200^{Hi} capillaries (magenta) at the diaphysis endosteum in tamoxifen-treated *Pdzk1ip^{creER} × ROSA26TdTomato* mice. Red: Alexa 568-CD150. Green: FITC-DAF-

FM. Grey: BV421-Lin/CD48. Blue: Alexa 648-IB4. Magenta: Q655-CD200. The scale bar indicates 20 μm .

Supplementary Video 10: Movie showing a scan through a z-stack image of NO^{Low} HSCs (red) at Type H vessels (cyan) in the metaphysis.

Red: Alexa 568-CD150. Green: FITC-DAF-FM. Grey: BV421-Lin/CD48. Cyan: FITC-EMCN. Blue: Alexa 648-IB4. Magenta: Q655-CD200. The scale bar indicates 20 μm .

Supplementary Video 11: Movie showing a scan through a z-stack image of NO^{Low} HSCs (red) at sinusoids (blue) in the central marrow of the diaphysis.

Red: Alexa 568-CD150. Green: FITC-DAF-FM. Grey: BV421-Lin/CD48. Cyan: FITC-EMCN. Blue: Alexa 648-IB4. Magenta: Q655-CD200. The scale bar indicates 20 μm .