PRIMERS USED FOR FERRITIN CDNA CONSTRUCTION.

The primer set for generating the single-subunit constructs were H5KF/H3R for H and L5KF/L3R for L. The single-chain duplex H*L was constructed by joining the H5KF/HN3R H amplicon as the N-terminal portion with the LC5F/L3R L amplicon as the C-terminal portion of the duplex using a double-stranded linker composed of the G4SFLAGUP/G4SFLAGDN oligonucleotides. The L*H duplex was similarly constructed by joining L5KF/LN3R L amplicon as the N-terminal portion with the HC5F/H3R H amplicon as the C-terminal portion using the same DNA linker. The fusions were accomplished using the NheI/XbaI sites at the 5' linker junction and the AcsI/MluI sites at the 3' junction. The linker encodes for the peptide, ARGGGGSDYKDDDDKGGGGSGAS for H*L and ARGGGGSDYKDDDDKGGGGSRV for L*H (FLAG epitope underlined) to connect their respective N- and C-terminal subunits.

"G4SFLAGUP",CTAGAGGCGGGGGCGGCAGCGATTACAAGGACGATGACGATAA
GGGCGGCGGGGGCTCCGG
"G4SFLAGDN",CGCGCCGGAGCCCCCGCCGCCCTTATCGTCATCGTCCTTGTAATC
GCTGCCGCCCCCGCCT
"H3R", ATTTGGTACCGCTAGCTTAGCTTTCATTATCACTGTCTCCCAGG
"H5KF",
AAATGGGCCCACGCGTGCCACCATGGCGACCGCGTCCACCTCGCAGGTG
"HC5F", TTTACGCGTCATGACGACCGCGTCCACCTCGCAG
"HN3R", ATTGCTAGCGCTTTCATTATCACTGTCTCCCAGG
"L3R", ATTTGGTACCGCTAGCTTAGTCGTGCTTGAGAGTGAGCCTTTCG
"L5KF",AAATGGGCCCACGCGTGCCACCATGGGCTCCCAGATTCGTCAGAATTAT
TCC
"LC5F", TTTACGCGTCAATGAGCTCCCAGATTCGTCAG
"LN3R", AAAGCTAGCGTCGTGCTTGAGAGTGAG

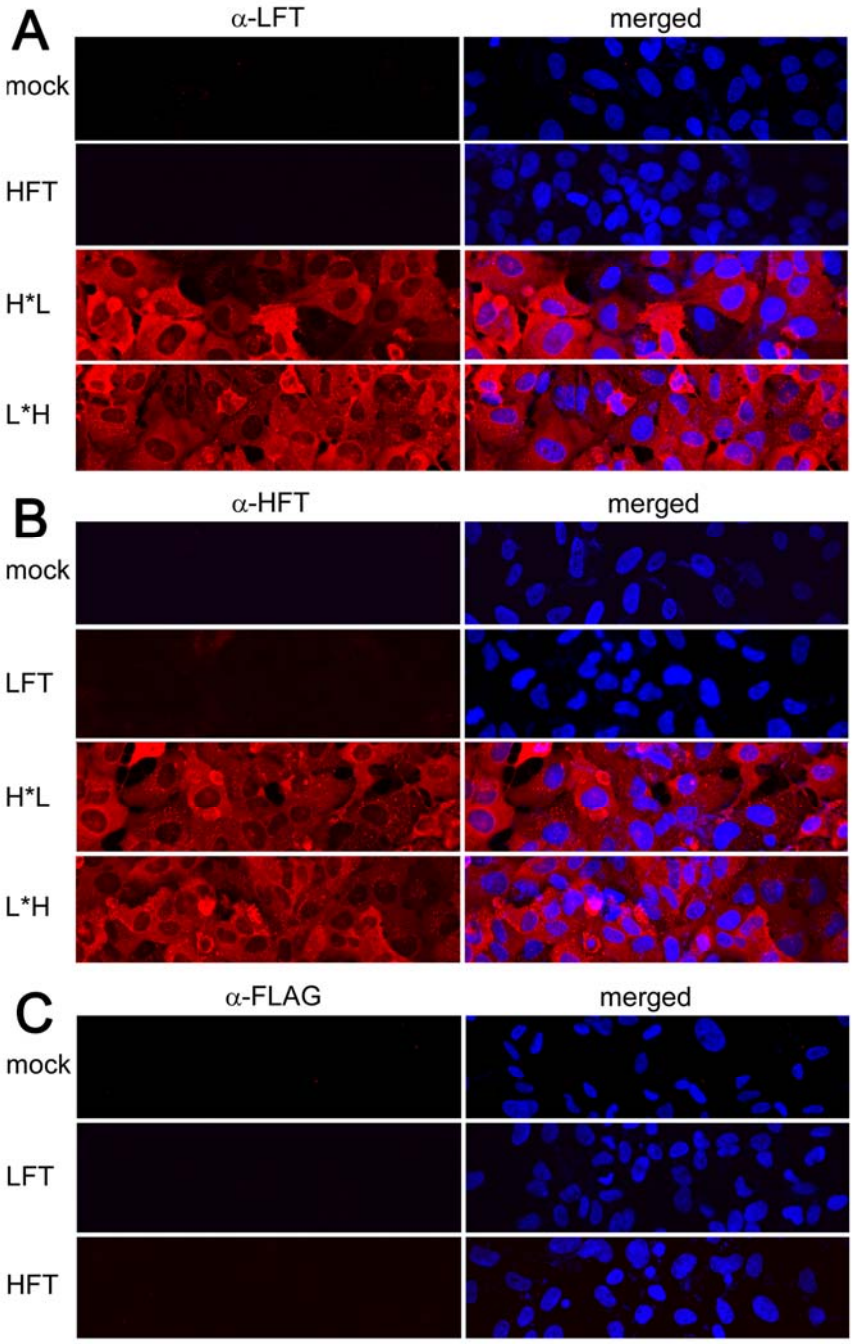

Fig. S1. Confocal microscopy of sub-cellular distribution of recombinant ferritins. Shown are the controls for the data displayed on Fig. 5a. (a) cells transduced as labeled were probed with antibody to L subunit (b) H subunit (c) FLAG epitope on the fusion L*H and H*L subunits. U2OS cells were transduced with the indicated transgenes for 48 h, fixed, permeabilized, probed with the specific antisera, and then stained with a secondary antibody Alexa Flour 594-Fab (red). Nuclei were counterstained using Hoechst 3342 (blue).

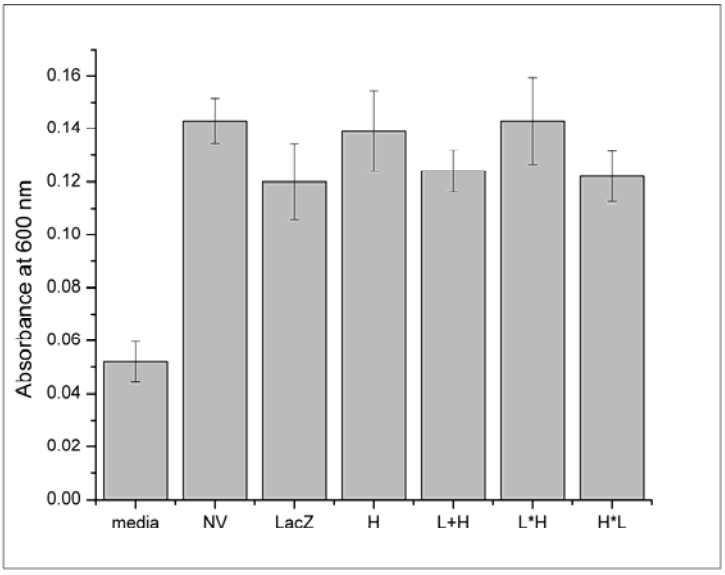

Fig. S2. Cytotoxicity assay of the ferritin constructs and the effect on cell proliferation. We performed the MTT [3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyltetrazolium bromide] assay at 48 h after transduction according to vendor specifications and found no significant difference between control cells and other ferritins.