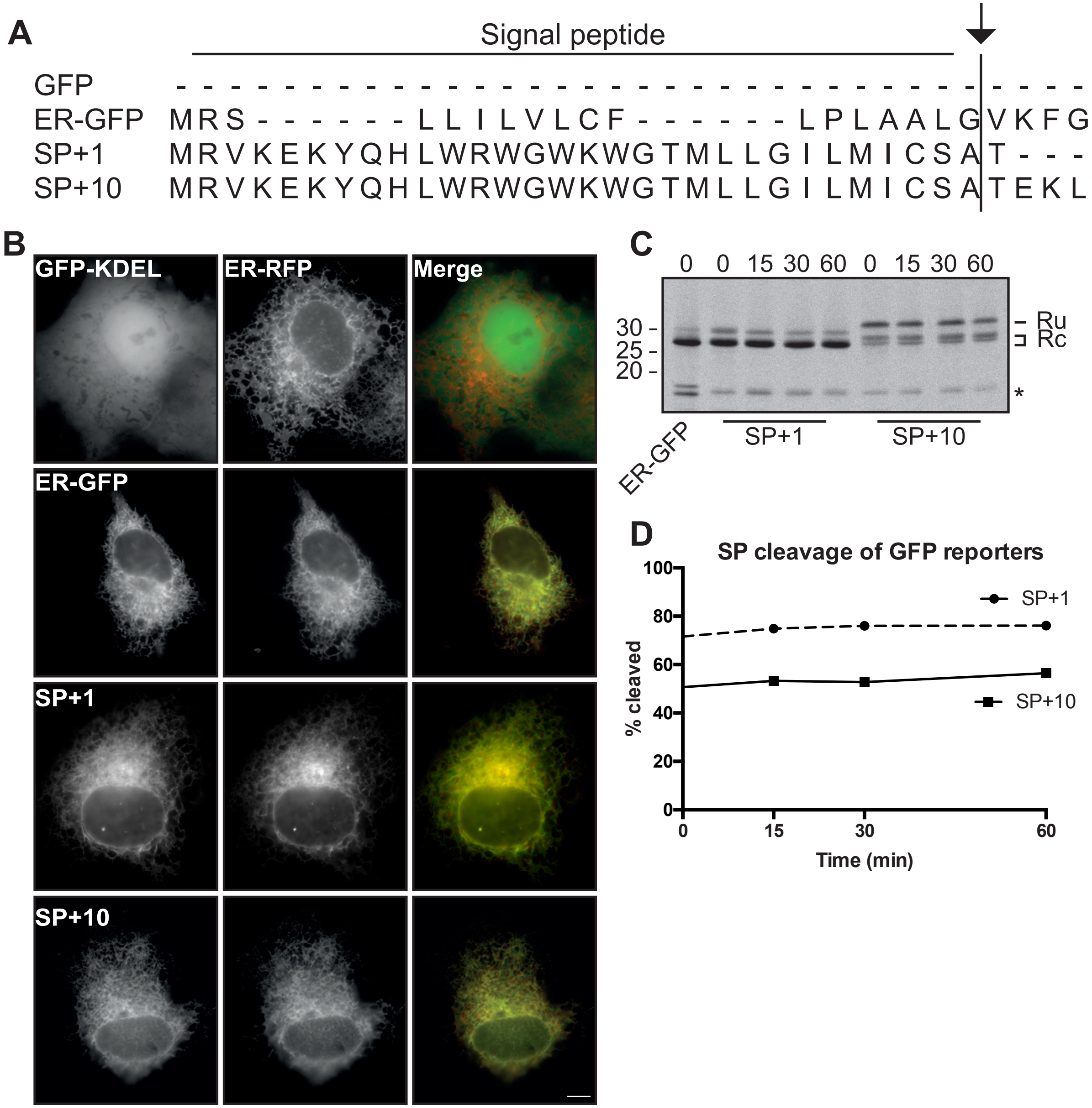

A
Signal peptide
GFP
GFP - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - MVSKGAELF
ER-GFP MRS - - - - - - LLILVLCF - - - - - - LPLAALGVKFGRCELAAMVSKGAELF
SP+1 MRVKEKYQHLWRWGWKWGTMLLGILMICSAT - - - - - - - - - MVSKGAELF
SP+10 MRVKEKYQHLWRWGWKWGTMLLGILMICSATEKLWVTVYYMVSKGAELF
B
GFP-KDEL
ER-RFP
Merge
ER-GFP
SP+1
SP+10
C
0 0 15 30 60 0 15 30 60
30
25
20
Ru
Rc
*
ER-GFP
SP+1
SP+10
D
SP cleavage of GFP reporters
% cleaved
100
80
60
40
20
0
SP+1
SP+10
0 15 30 60
Time (min)