Table S1. Effects of redox-related small molecules or proteins on nuclear export

Small molecules			
Reagents	Full name	Description	Effect on nuclear export
Vc	Vitamin C/L-ascorbic acid	Antioxidant vitamin	–
GSH	Reduced glutathione/ L-γ-glutamyl-L-cysteinyl-glycine	Prevalent low-molecular-weight thiol in mammalian cells	–
NAC	*N*-Acetylcysteine	Glutathione precursor, also acting as an antioxidant	–
BSO	Buthionine sulfoximine	Inhibitor of γ-glutamylcysteine synthetase, a key enzyme in glutathione biosynthesis	–
Auranofin	*S*-Triethylphosphine-gold(I)-2,3,4,6-tetra-*O*-acetyl-1-thio-β-D-glucopyranoside	Inhibitor of TrxR	–
H2O2	Hydrogen peroxide	Strong oxidant, intracellular signaling molecule	–
GSNO	*S*-Nitrosoglutathone	The main non-protein S-nitrosothiol (SNO) in cells, which functions in an equilibrium with protein SNOs	+
Overexpressed proteins			
Protein	Full name	Description	Effect on nuclear export
Trx	Thioredoxin	Antioxidant protein	–
TrxR	Thioredoxin reductase	Antioxidant protein	–
Grx	Glutaredoxin	Antioxidant protein	–
DJ-1	PARK7	Antioxidant protein	–
PDI	Protein disulfide isomerase	Thiol/disulfide oxidoreductases	–
APE1/Ref-1	Apurinic apyrimidinic endonuclease/redox effector factor-1	Antioxidant protein	–

For screening of small molecules, HEK293T cells transiently expressing Rev1.4+NES-GFP were treated with indicated reagents at various reference-recommended concentrations and durations (not shown). Results show that treatment of cells with GSNO (1-5 mM) for 4 hours results in clear nuclear accumulation of the reporter. To determine the effect of redox-related proteins on nuclear export, HEK293T cells were transfected with Rev1.4+NES-GFP, together with indicated mammalian expression vectors for those proteins, and 48 hours later the GFP fluorescence was examined. In addition, no discernable effect on the localization of Rev1.4-GFP was observed for all the small molecules and proteins (not shown).