

**Supplementary methods.** Nineteen agents that were sufficiently active to inhibit at least to an  $IC_{10}$  in A549 cells were chosen (Table 2). Anisomycin, indirubin-3'-oxime, LY294002 hydrochloride, and SP600125 were obtained from Tocris Cookson, Inc. (Ellisville, MO). All were dissolved in dimethyl sulfoxide (DMSO) purchased from Fisher Scientific (Pittsburgh, PA) at concentrations of 50 mM, 50 mM, 10 mM, and 50 mM, respectively. Deguelin and rapamycin were both from Axxora, LLC (San Diego, CA), and dissolved in DMSO to concentrations of 10 mM and 5 mg/ml, respectively. Cisplatin (Platinol-AQ) was obtained from Bristol-Myers Squibb Co. (Princeton, NJ) and imatinib mesylate tablet (Gleevec, Novartis Pharmaceuticals Corp., East Hanover, NJ). Cisplatin was dissolved in a sodium chloride solution to a concentration of 1 mg/ml, and imatinib mesylate tablets were initially crushed then solublized with DMSO (10% v/v) and sterile water for injection to a concentration of 12 mg/ml. Both gemcitabine HCl (Gemzar) from Eli Lilly & Co. (Indianapolis, IN) and bortezomib from Millennium Pharmaceuticals, Inc. (Cambridge, MA) were dissolved in media to concentrations of 10 mM and 1 mg/ml, respectively. 5-Aza-2'-deoxycytidine was obtained from Sigma-Aldrich, Inc. (St. Louis, MO) and dissolved to a concentration of 10 mM in sterile water. PD 168393 from Calbiochem (San Diego, CA) was diluted in DMSO to a concentration of 5 mM. The final seven drugs were supplied by one of the authors (R.L.). Original sources for the seven drugs were as follows: 4-HPR (N-(4-hydroxyphenyl)retinamide) from the National Cancer Institute (Bethesda, MD), ATRA (all trans-retinoic acid) from F. Hoffmann-La Roche (Basel, Switzerland), CD437 (6-[3-(1-adamantyl)-4-hydroxyphenyl]-2-naphthalene carboxylic acid) from CIRD/Galderma R&D (Sophia Antipolis, France), MX3350-1 from Maxia Pharmaceuticals (La Jolla, CA), SAHA (suberoylanilide hydroxamic acid) from the Midwest Research Institute (Kansas City, MO), SCH66336 (Sarasar) from Schering-Plough (Kenilworth, NJ), and ST1926 (E-3-(4'-hydroxy-3'-adamantylbiphenyl-4-yl) acrylic acid) from Sigma-Tau (Pomezia, Italy). All seven drugs were prepared at a 10-mM concentration in DMSO and stored under nitrogen. Except for 5-aza-2'-deoxycytidine, which was stored in the dark at -80°C, all drug aliquots were stored in the dark at -20°C.