Supplementary Figure 1. Knockdown of CYP1B1 expression never affected growth-inhibitory activity of NK150460. The NK150460-sensitive cell line SK-BR-3 was transfected with Cyp1B1 siRNA or non-silencing control siRNA. At 24 hours after transfection, various concentrations of NK150460 were added to the cell cultures. Two days later, the culture medium was removed, the cells were stained with methylene blue and the absorbance at 660 nm of each sample was measured.

Supplementary Figure 2. Knock down effect of each siRNA in experiment of Figure 2(C). Total RNA was extracted at 24 hours after siRNA transfection into SK-BR-3, and mRNA was quantified with quantitative RT-PCR. Quantity of AhR, ARNT, CYP1A1 and CYP1A2 mRNA was normalized with the quantity of GAPDH mRNA in each sample. Upper left: AhR mRNA level; Upper right: ARNA mRNA level; Lower: mRNA level of CYP1A1 (closed bar) and CYP1A2 (open bar).

Supplementary Figure 3. Induction of gene expression via xenobiotic responsible elements (XREs) by NK150460 or aryl hydrocarbon receptor agonists, 3-methylcholantrene (3MC) or β-naphthoflavone (BNF). XRE-luciferase fusion plasmids were transfected into MCF-7 cells, followed by treatment with various concentrations of the test compounds on the next day. Luciferase activity was measured at 24 hr after the compounds were added.

Supplementary Figure 4. Induction of *CYP1A1*, *CYP1A2* and *CYP1B1* gene expression by NK150460. MCF-7 cells were treated with NK150460 for 3 hours, and the total RNA was extracted. Messenger RNAs of these genes were quantified by quantitative RT-PCR.

Supplementary Figure 5. Growth-inhibitory activity of NK150460 in CYP1A1-overexpressing HEK293 cells was not abrogated by knockdown of AhR expression. After 2 days of HEK293 plating, the following combinations of plasmid DNA and siRNA were transfected: pcDNA3 + non-silencing control siRNA, pcDNA3 + AhR siRNA, pcDNA3/CYP1A1 + non-silencing control siRNA or pcDNA3/CYP1A1 + AhR siRNA. After transfection for 6 hr, each medium was replaced with fresh culture medium, followed by culture for another 18 hr. Various concentrations of NK150460 were added to the culture medium, followed by incubation for 3 days. Cell growth was determined by methylene blue assay.

Supplementary Figure 6. The calculated chemical shifts of NK150460 and M-2 by NMR.

Supplementary Figure 7. Detection of NK150460 and its metabolites (A) in whole cell extract and (B) in culture medium. Upper LC-MS/MS charts show the peak of NK150460, and lower charts show peaks of hydroxylated NK150460. SK-BR-3 cells were treated with NK150460 for 6 hours, then extracts from both culture medium and collected cells were prepared.