

产品名称: **KX2-391**
产品别名: **Tirbanibulin; KX-01**

生物活性:	
Description	Tirbanibulin (KX2-391) is an inhibitor of Src that targets the peptide substrate site of Src, with GI_{50} of 9-60 nM in cancer cell lines.
IC₅₀ & Target	GI_{50} : 9 nM (Src, in Huh7 cells), 13 nM (Src, in PLC/PRF/5 cells), 26 nM (Src, in Hep3B cells), 60 nM (Src, in HepG2 cells)[1]
In Vitro	Tirbanibulin (KX2-391) is a Src inhibitor that is directed to the Src substrate pocket. Tirbanibulin (KX2-391) shows steep dose-response curves against Huh7 (GI_{50} =9 nM), PLC/PRF/5 (GI_{50} =13 nM), Hep3B (GI_{50} =26 nM), and HepG2 (GI_{50} =60 nM), four hepatic cell cancer (HCC) cell lines[1]. Tirbanibulin (KX2-391) is found to inhibit certain leukemia cells that are resistant to current commercially available drugs, such as those derived from chronic leukemia cells with the T3151 mutation. Tirbanibulin (KX2-391) is evaluated in engineered Src driven cell growth assays in NIH3T3/c-Src527F and SYF/c-Src527F cells and exhibits GI_{50} with 23 nM and 39 nM, respectively [2].
In Vivo	Orally administered Tirbanibulin (KX2-391) is shown to inhibit primary tumor growth and to suppress metastasis, in pre-clinical animal models of cancer[2].
References	[1]. Lau GM, et al. Expression of Src and FAK in hepatocellular carcinoma and the effect of Src inhibitors on hepatocellular carcinoma in vitro. Dig Dis Sci, 2009, 54(7), 1465-1474. [2]. Fallah-Tafti A, et al. Thiazolyl N-benzyl-substituted acetamide derivatives: synthesis, Src kinase inhibitory and anticancer activities. Eur J Med Chem, 2011, 46(10), 4853-4858.
实验参考:	
Cell Assay	Liver cell lines including Huh7, PLC/PRF/5, Hep3B, and HepG2 are routinely cultured and maintained in basal medium containing 2% fetal bovine serum (FBS) at 37°C and 5% CO ₂ . Cells are seeded at 4.0×10 ³ /190 μL and 8.0×10 ³ /190 μL per well of 96-well plate in basal medium containing 1.5% FBS. These are cultured overnight at 37°C and 5% CO ₂ prior to the addition of Tirbanibulin (KX2-391), at concentrations ranging from 6,564 to 0.012 nM in triplicates. Treated cells are incubated for 3 days. Ten μLs of 3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyltetrazolium bromide (MTT) solution (5 mg/mL) is then added to each well on day 3 and cells incubated for 4 hours. The formazan product is dissolved with 10% SDS in dilute HCl. Optical density at 570 nm is measured. For comparison of activity and potency, parallel experiments are performed using Tirbanibulin (KX2-391). Growth inhibition curves, 50% inhibition concentration (GI_{50}), and 80% inhibition concentration (GI_{80}) are determined using GraphPad Prism 5 statistical software. Data are normalized to represent percentage of maximum response as well as reported in optical density at wavelength of 570 nm (OD570) signal format[1]
References	[1]. Lau GM, et al. Expression of Src and FAK in hepatocellular carcinoma and the effect of Src inhibitors on hepatocellular carcinoma in vitro. Dig Dis Sci, 2009, 54(7), 1465-1474. [2]. Fallah-Tafti A, et al. Thiazolyl N-benzyl-substituted acetamide derivatives: synthesis, Src kinase inhibitory and anticancer activities. Eur J Med Chem, 2011, 46(10), 4853-4858.