上海源叶生物科技有限公司
Shanghai yuanye Bio-Technology Co., Ltd
电话：021-61312973　　传真：021-55068248
网址：www.shyuanye.com
邮箱：shyysw@sina.com

产品名称：BIX 01294
CAS 号：1392399-03-9
产品货号：S88026

生物活性：

Description	BIX-01294 trihydrochloride 是一种可逆且高度选择性的 G9a 和 GLP 组蛋白甲基转移酶抑制剂，IC50 分别为 1.9 μM 和 0.7 μM。BIX-01294 trihydrochloride 通过与底物赖氨酸残基 N 端的氨基酸竞争结合来抑制 G9a/GLP。BIX-01294 trihydrochloride 是一种 (1H-1,4-diazepin-1-yl)-quinazolin-4-yl 胺衍生物，可诱导坏死性凋亡 (necroptosis) 和自噬。BIX-01294 trihydrochloride 在复发性肿瘤细胞中具有抗肿瘤活性。
IC50 & Target	IC50: 2.7 μM (G9a in DELFIA assay)[2] IC50: 1.9 μM for G9a and 0.7 μM for GLP[5]
In Vitro	BIX-01294 (2 μM; 48 h) trihydrochloride selectively inhibits recurrent tumor cell growth[1]. BIX-01294 (1 μM) trihydrochloride leads to a marked increase in phosphorylation of S345 of MLKL[1]. BIX-01294 (1 μM) trihydrochloride significantly upregulates the canonical p53 targets Cdkn1a (p21) and Gadd45a in recurrent tumor cell lines[1]. BIX-01294 (1 μM; 6 days) trihydrochloride causes the reduction in H3K9me2 levels in primary and recurrent tumor cells[1]. BIX-01294 trihydrochloride leads to necroptotic cell death in recurrent tumor cells. Necrostatin-1 (30 μM) partially reverses cell death induced by BIX-01294 (750 nM; 24 h) trihydrochloride[1]. BIX-01294 (4.1 μM; for 2 days) trihydrochloride causes around a 20% reduction, concomitant with a comparable increase in the unmodified H3K9 fragment in H3K9me2 in mouse ES cells. BIX-01294 trihydrochloride causes pronounced reduction in H3K9me2 and a small decrease for H3K9me3 and H3K9me1 in wild-type ES cells[2]. BIX-01294 trihydrochloride has no inhibition of the other histone methyltransferases even at concentrations of 45 μM. BIX-01294 trihydrochloride does not affect SUV39H1 (H320R) and PRMT1 within the tested concentration range (up to 10 μM)[2]. BIX-01294 trihydrochloride inhibits G9a in an uncompetitive manner with S-adenosyl-methionine (SAM)[2]. BIX-01294 (1 μg/mL) causes reduction in the BrdU incorporation of fetal PASMCs. BIX-01294 treatment decreases the PASMCs migration induced by PDGF[3]. Cell Viability Assay[1] Cell Line: Primary or recurrent tumor cells Concentration: 2 μM Incubation Time: 48 h Result: Selectively inhibited recurrent tumor cell growth.
In Vivo	BIX-01294 trihydrochloride (10 mg/kg; IP; three times a week for 2 weeks) significantly reduces tumor growth and tumor burden in recurrent tumor cells. Primary tumor growth is not inhibited[1]. **Animal Model:** Female MMTV-rtTA;TetO-Her2/neu (MTB;TAN) and TetO-Her2/neu (TAN) mice with recurrent or primary tumor cells[1] **Dosage:** 10 mg/kg **Administration:** IP; three times a week for 2 weeks

上海源叶生物科技有限公司
Shanghai yuanye Bio-Technology Co., Ltd
电话：021-61312973　　传真：021-55068248
网址：www.shyuanye.com
邮箱：shyysw@sina.com

	Result:	Significantly reduced tumor growth and tumor burden in recurrent tumor cells. Primary tumor growth was not inhibited. Slowed the growth of orthotopic recurrent tumors in athymic nude recipients.

Solvent&Solubility

细胞实验:

H2O 中的溶解度 ： ≥ 100 mg/mL (166.66 mM)

DMSO 中的溶解度 ：58.33 mg/mL (97.21 mM; 超声助溶; 吸湿的 DMSO 对产品的溶解度有显著影响，请使用新开封的 DMSO)

* "≥" means soluble, but saturation unknown

	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
Preparing Stock Solutions	1 mM	1.6666 mL	8.3331 mL	16.6661 mL
	5 mM	0.3333 mL	1.6666 mL	3.3332 mL
	10 mM	0.1667 mL	0.8333 mL	1.6666 mL

*请根据产品在不同溶剂中的溶解度选择合适的溶剂配制储备液；一旦配成溶液，请分装保存，避免反复冻融造成的产品失效。

储备液的保存方式和期限：-80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)。-80°C 储存时，请在 6 个月内使用，-20°C 储存时，请在 1 个月内使用。

* 备注：如您选择水作为储备液，请稀释至工作液后，再用 0.22 μm 的滤膜过滤除菌后使用。

参考文献

[1]. Nathaniel W Mabe, et al. G9a Promotes Breast Cancer Recurrence through Repression of a Pro-inflammatory Program. Cell Rep. 2020 Nov 3;33(5):108341.

[2]. Stefan Kubicek, et al. Reversal of H3K9me2 by a small-molecule inhibitor for the G9a histone methyltransferase. Mol Cell. 2007 Feb 9;25(3):473-81.

[3]. Yang Q, et al. BIX-01294 treatment blocks cell proliferation, migration and contractility in ovine foetal pulmonary arterial smooth muscle cells. Cell Prolif. 2012 Aug;45(4):335-44.

[4]. Iwona Anna Ciechomska, et al. BIX01294, an inhibitor of histone methyltransferase, induces autophagy-dependent differentiation of glioma stem-like cells. Sci Rep

[5]. Yanqi Chang, et al.Structural basis for G9a-like protein lysine methyltransferase inhibition by BIX-01294. Nat Struct Mol Biol. 2009 Mar;16(3):312-7.

完整储备液配制表：

请根据产品在不同溶剂中的溶解度选择合适的溶剂配制储备液；一旦配成溶液，请分装保存，避免反复冻融造成的产品失效。

储备液的保存方式和期限：-80° C, 6 months; -20° C, 1 month (sealed storage, away from moisture)。-80° C 储存时，请在 6 个月内使用，-20° C 储存时，请在 1 个月内使用。

可选溶剂	质量 / 溶剂体积 / 浓度	1 mg	5 mg	10 mg	25 mg
H2O/DMSO	**1 mM**	1.6666 mL	8.3331 mL	16.6661 mL	41.6653 mL
	5 mM	0.3333 mL	1.6666 mL	3.3332 mL	8.3331 mL
	10 mM	0.1667 mL	0.8333 mL	1.6666 mL	4.1665 mL

上海源叶生物科技有限公司
Shanghai yuanye Bio-Technology Co., Ltd
电话：021-61312973　　传真：021-55068248
网址：www.shyuanye.com
邮箱：shyysw@sina.com

	15 mM	0.1111 mL	0.5555 mL	1.1111 mL	2.7777 mL
	20 mM	0.0833 mL	0.4167 mL	0.8333 mL	2.0833 mL
	25 mM	0.0667 mL	0.3333 mL	0.6666 mL	1.6666 mL
	30 mM	0.0556 mL	0.2778 mL	0.5555 mL	1.3888 mL
	40 mM	0.0417 mL	0.2083 mL	0.4167 mL	1.0416 mL
	50 mM	0.0333 mL	0.1667 mL	0.3333 mL	0.8333 mL
	60 mM	0.0278 mL	0.1389 mL	0.2778 mL	0.6944 mL
	80 mM	0.0208 mL	0.1042 mL	0.2083 mL	0.5208 m
DMSO	**100 mM**	0.0167 mL	0.0833 mL	0.1667 mL	0.4167 mL

备注：如您选择水作为储备液，请稀释至工作液后，再用 0.22 μm 的滤膜过滤除菌后使用。