



Technical Data Sheet:

XAV939

Catalog Number	SML12B
Synonyms	XAV-939, XAV 939
Size	10 mg
Description	XAV939 is a tankyrase (TNKS) inhibitor, most specifically for TNKS1 (IC ₅₀ of 5nM) and TNKS2 (IC ₅₀ of 2nM) (Haikarainen, et al.), in turn indirectly inhibiting downstream Wnt/ β -catenin signaling (Huang, et al.). XAV939 has been shown to be an efficient additive in the derivation of functional neurons from human pluripotent stem cells (PSCs) when combined with other small molecules including LDN193189 (Cat. No. SML05B) and SB431542 (Cat. No. SML09B) (Qi, et al.). Additionally, XAV939 allows for the enhanced differentiation of PSCs into cardiomyocytes (Minami, et al.).
Molecular Weight	312.31
Molecular Formula	C ₁₄ H ₁₁ F ₃ N ₂ O ₅
Chemical Name	4H-Thiopyrano[4,3-d]pyrimidin-4-one, 3,5,7,8-tetrahydro-2-[4-(trifluoromethyl)phenyl]-
CAS Number	284028-89-3
Target	β -catenin; PARP
Appearance	White to off-white (Solid)
Purity	\geq 95% by NMR
Solubility and Reconstitution	Soluble in DMSO up to 20 mM, for example: 10 mg/160.097 mL = 0.311 mg/mL = 0.2 mM 10 mg/32.020 mL = 1.557 mg/mL = 1 mM 10 mg/16.010 mL = 3.113 mg/mL = 2 mM 10 mg/3.202 mL = 6.227 mg/mL = 10 mM
Storage Temperature and Stability	Powder: -20°C 3 years 4°C 2 years In solvent: -80°C 6 months -20°C 1 month
References	Haikarainen, et al. (2014). Tankyrases: structure, function, and therapeutic implications in cancer. <i>20</i> : 6472-6488. Huang, et al. 2009. Tankyrase inhibition stabilizes axin and antagonizes Wnt signaling. <i>Nature</i> . 461(7264):614-620. Minami, et al. 2012. A small molecule that promotes cardiac differentiation of human pluripotent stem cells under defined, cytokine- and xeno-free conditions. <i>Cell Reports</i> 2(5): 1448-1460 Qi, et al. 2017. Combined small-molecule inhibition accelerations the derivation of functional cortical neurons from human pluripotent stem cells. <i>Nature Biotechnology</i> 35(2): 154-163.