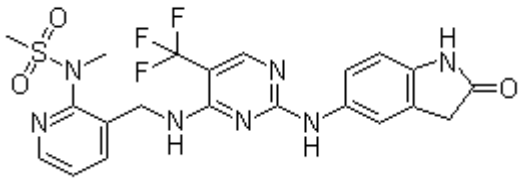
Product Introduction

PF 562271

PF 562271 is a potent, ATP-competitive, reversible inhibitor of **FAK** with **IC50** of 1.5 nM, ~10-fold less potent for Pyk2 than FAK and >100-fold selectivity against other protein kinases, except for some CDKs.

Technical Data:

Molecular Weight (MW):	507.49	
Formula:	$C_{21}H_{20}F_3N_7O_3S$	
Solubility (25 ℃) * <1 mg/ml means slightly soluble or insoluble:	DMSO 101 mg/mL	
	Water <1mg/mL	
	Ethanol <1 mg/mL	
Purity:	>98%	
Storage:	3 years -20℃ Powder	
	6 months-80℃ in DMSO	
CAS No.:	717907-75-0	

Biological Activity

PF-562271 binds in the ATP-binding cleft of FAK, forming two of the three “canonical” H-bonds between the inhibitor and main-chain atoms in the kinase hinge region. PF-562271 is potent in an inducible cell-based assay measuring phospho-FAK with IC50 of 5 nM. PF-562271 (3.3 μM) results in G1 arrest of PC3-M cells. [1] PF-562271 (1 nM) blocks bFGF-stimulated blood vessel angiogenesis as performed in chicken chorioallantoic membrane assays. PF-262271 potently blocks blood vessel sprouting without

detectable changes in vascular leakage.[2] PF-562271 (250 nM) results in complete inhibition of collective A431 cell invasion into collagen gels.[3]

PF-562271 (< 33 mg/kg p.o.) inhibits FAK phosphorylation in tumors in a dose- and time-dependent manner in U87MG-bearing mice. PF-562271 (50 mg/kg p.o. bid) results in 86% tumor growth inhibition in BxPc3 xenografts mice and 45% tumor growth inhibition in PC3-M xenografts mice. PF-562271 (25 mg/kg, bid) results in 2-fold greater apoptosis in treated tumors in mice bearing H125 lung xenografts. [1] PF-562271 (33 mg/kg, p.o.) inhibits extensive movement of the tumor cells over 24 hours in mice. PF-562271 (33 mg/kg, p.o.) results in altered E-cadherin dynamics in mice, which correlates with reduced E-cadherin–dependent collective cell movement. [3] PF-562271 (25 mg/kg, p.o. bid) results in 62% tumor growth inhibition in PC3M-luc-C6 subcutaneuous local implant xenograft mouse model. [4] PF-562,271 (5 mg/kg, oral) results in significant and similar increases in osteocalcin and cancellous bone parameters and a decrease in tumor growth and signs of bone healing in rats implanted with MDA-MB-231 cells in the tibia. [5]

References

[1] Roberts WG, et al. Cancer Res, 2008, 68(6), 1935-1944.

[2] Lim ST, et al. Cell Cycle, 2008, 7(15), 2306-2314.

[3] Canel M, et al. Cancer Res, 2010, 70(22), 9413-9422.

[4] Sun H, et al. Cancer Biol Ther, 2010, 10(1), 38-43.

[5] Bagi CM, et al. Cancer, 2008, 112(10), 2313-2321.