

Focus Biomolecules - Stem Cell Modulators

Note: Effects will vary with concentration, cell line, or cell growth conditions

Focus No.	Product Name	Bio-Activity	Stem Cell Effect	Category
10-1170	Mitomycin C	DNA crosslinking and damaging agent	Feeder cell preparation	Feeder cells
10-1057	Resveratrol	Antioxidant; SIRT1 activator	EPS immortalization	Survival
10-1539	ISRIB	Integrated stress response inhibitor	hPSC survival	Survival
10-1609	HA-100 2HCl	Protein kinase (PK) inhibitor	iPS survival	Survival
10-2122	Bosutinib	Src/Abl kinase inhibitor	Increases survival rate of motor neurons derived from ALS patients' iPSCs	Survival
10-2137	Fasudil HCl	ROCK inhibitor	Mobilize adult NSCs	Survival
10-2172	SB-202190	p38 MAP kinase inhibitor	Cardiomyocyte differentiation; effects on self-renewal depend on cell type	Survival
10-2301	Y-27632 dihydrochloride	ROCK family kinase inhibitor	hPSC survival	Survival
10-2568	Minocycline HCl	Neuroprotective; Antiapoptotic	Enhances NSC survival	Survival
10-2578	Clozapine N-oxide	DREADD agonist	Used to enhance survival of grafted human pluripotent stem cell-derived neurons engineered to express DREADDs	Survival
10-4230	Imiquimod	TLR7 Agonist	Increases immunogenicity of MSCs	Survival
10-4415	MDL-800	SIRT6 allosteric activator	Induces DNA repair in iPSCs derived from aged mice	Survival
10-4912	Chroman 1	ROCK II inhibitor / Stem cell cytoprotectant	hPSC survival	Survival

10-1036	STO-609	CAMKK inhibitor	HSPC expansion	Expansion / Maintenance / Self-renewal / Regeneration
10-1279	CHIR-99021	GSK-3 β inhibitor	ESC self-renewal	Expansion / Maintenance / Self-renewal / Regeneration
10-1308	IWP-2	Porcn inhibitor: Wnt/b-catenin pathway inhibitor	Suppresses ESC self-renewal	Expansion / Maintenance / Self-renewal / Regeneration
10-1309	MG-132	Proteasome inhibitor	ESC self-renewal	Expansion / Maintenance / Self-renewal / Regeneration
10-1327	A83-01	ALK inhibitor	ESC proliferation	Expansion / Maintenance / Self-renewal / Regeneration
10-1337	Garcinol	HAT inhibitor	Stem cell expansion	Expansion / Maintenance / Self-renewal / Regeneration
10-1358	Prostaglandin E2	Prostaglandin E (EP) agonist	HSC homeostasis	Expansion / Maintenance / Self-renewal / Regeneration
10-1449	LPA (Oleyl)	Endogenous LPA receptor agonist	ASC proliferation	Expansion / Maintenance / Self-renewal / Regeneration
10-2073	Forskolin	Adenylate cyclase activator	NSC differentiation/iP S generation/Maintenance	Expansion / Maintenance / Self-renewal / Regeneration
10-2110	Trichostatin A	HDAC inhibitor	MSC maintenance	Expansion / Maintenance / Self-renewal / Regeneration
10-2150	LY294002	PI 3-Kinase inhibitor	Stem cell proliferation inhibitor	Expansion / Maintenance / Self-renewal / Regeneration
10-2179	U0126	Selective MEK1 and MEK2 inhibitor	ESC self-renewal	Expansion / Maintenance / Self-renewal / Regeneration
10-2438	EHNA	PDE2 inhibitor, ADA inhibitor	ESC maintenance	Expansion / Maintenance / Self-renewal / Regeneration

10-2480	Pifithrin α	p53 inhibitor	Suppresses ESC self-renewal	Expansion / Maintenance / Self-renewal / Regeneration
10-2621	Go-6983	PKC inhibitor	ESC maintenance	Expansion / Maintenance / Self-renewal / Regeneration
10-2728	Fluoxetine HCl	Serotonin reuptake inhibitor	NSC proliferation	Expansion / Maintenance / Self-renewal / Regeneration
10-3089	CH-223191	Arylhydrocarbon receptor antagonist	HSC expansion/self-renewal	Expansion / Maintenance / Self-renewal / Regeneration
10-3141	ABT-263	Bcl-2 family inhibitor, Senolytic agent	Induces rapid increase in neural precursor cell proliferation	Expansion / Maintenance / Self-renewal / Regeneration
10-3722	Urolithin A	Mitophagy inducer	T memory stem cell expansion	Expansion / Maintenance / Self-renewal / Regeneration
10-3768	Eltrombopag	Small molecule thrombopoietin agonist	HSC expansion/self-renewal	Expansion / Maintenance / Self-renewal / Regeneration
10-4468	Roxadustat	Prolyl hydroxylase domain inhibitor / HIF stabilizer	Enhances epidermal stem cell proliferation and motility	Expansion / Maintenance / Self-renewal / Regeneration
10-4508	SR1 (Stemregenin 1)	Antagonizes AhR signaling	HSC expansion/self-renewal	Expansion / Maintenance / Self-renewal / Regeneration
10-4520	Harmine HCl	MAO-A and DYRK inhibitor	Stem cell proliferation	Expansion / Maintenance / Self-renewal / Regeneration
10-1009	Na Valproate	HDAC inhibitor	iPS generation	Generation
10-1171	A-769662	AMPK activator	Blocks iPS generation	Generation
10-1267	5-Azacytidine	DNA hypomethylation agent	iPS generation	Generation
10-1335	BIX-01294	Histone methyl transferase inhibitor	iPS generation	Generation
10-1397	Alsterpaullone	GSK-3 β inhibitor; CDK5/p25 inhibitor	iPS generation	Generation

10-2161	PD 325901	MEK inhibitor	iPS generation	Generation
10-2546	RG-108	DNA methyltransferase inhibitor	iPS generation	Generation
10-4518	BAY K8644	L-type calcium channel activator	iPS generation	Generation
10-4622	Purmorphamine	Smoothened activator	iPS generation	Generation
10-5216	UNC 0224	G9a histone methyl transferase inhibitor	iPS generation	Generation
10-1008	IBMX	Phosphodiesterase (PDE) inhibitor, pan specific	NSC differentiation/A dipogenesis	Differentiation
10-1029	Dorsomorphin	AMPK inhibitor	ESC/MSC differentiation	Differentiation
10-1033	SP-600125	JNK inhibitor	Inhibits hPDC differentiation	Differentiation
10-1067	SAHA (Vorinostat)	HDAC inhibitor	Neuronal differentiation	Differentiation
10-1074	Ko-143	BCRP inhibitor	Differentiation	Differentiation
10-1082	Cyclopamine	Hedgehog signaling pathway inhibitor	Differentiation	Differentiation
10-1083	EX-527	SIRT1 inhibitor	Inhibits differentiation; facilitates expansion	Differentiation
10-1092	AICAR	AMPK activator	Osteogenic differentiation	Differentiation
10-1118	Phenylbutyrate Na	HDAC inhibitor	ESC differentiation	Differentiation
10-1134	Dexamethasone	Apoptosis inducing glucocorticoid	MSC differentiation	Differentiation
10-1138	Retinoic acid	Retinoid RAR agonist	ESC/NSC differentiation	Differentiation
10-1186	XAV-939	Tankyrase inhibitor, Cardiomyogenesis inducer	ESC differentiation	Differentiation
10-1248	Ouabain	Na ⁺ K ⁺ ATPase inhibitor	Cardiac differentiation of ESC	Differentiation
10-1330	24,25-Epoxycholesterol	LXR agonist	ESC differentiation	Differentiation
10-1350	Nutlin-3	p53/mdm2 inhibitor	ESC differentiation	Differentiation

10-1357	ISX9	Neurogenic differentiation inducer	NSC differentiation	Differentiation
10-1400	6BIO	GSK-3 inhibitor	NSC differentiation	Differentiation
10-1492	LY364947	ALK5 inhibitor	Blocks human mesenchymal stem cell differentiation	Differentiation
10-2057	Apicidin	HDAC inhibitor	Differentiation	Differentiation
10-2104	Staurosporine	Protein kinase inhibitor	Differentiation	Differentiation
10-2159	PD-98059	MEK inhibitor	ESC self-renewal/differentiation	Differentiation
10-2165	PMA (TPA)	PKC activator	Cardiomyocyte differentiation	Differentiation
10-2173	SB-203580	p38 MAP kinase inhibitor	NSC differentiation	Differentiation
10-2412	Decitabine	DNA hypomethylation agent	Osteogenic differentiation	Differentiation
10-2432	Zebularine	DNA methylation inhibitor	MSC differentiation	Differentiation
10-2443	SB-431542	ALK4, 5 and 7 inhibitor	ESC differentiation	Differentiation
10-2520	SU-5402	FGFR Phosphorylation inhibitor	Suppresses hepatocyte differentiation	Differentiation
10-2618	BADGE	PPAR gamma antagonist	Adipogenesis	Differentiation
10-2627	Dibutyryl cAMP	PKA activator	hPSC differentiation	Differentiation
10-2672	Tetrabenazine	VMAT2 inhibitor; beta-cell inducer	Endocrine precursor differentiation	Differentiation
10-2731	NSC-23766	Rac1 GTPase inhibitor	ADSC chondro-lineage differentiation	Differentiation
10-2733	Resiquimod/R848	Toll-like receptor 7/8 agonist; Immunostimulant	Effects on differentiation depend on cell type	Differentiation
10-2840	Nicotinamide	SIRT1 inhibitor and essential nutrient	Inhibits HSPC differentiation	Differentiation
10-2940	Q-VD-OPH	Caspase inhibitor (pan)	Blocks staurosporin-induced differentiation of ESCs	Differentiation

10-2983	SB-525334	ALK5 (TGF bR1) inhibitor	Cardiomyocyte differentiation	Differentiation
10-3414	P7C3-A20	NAMPT activator; Proneurogenic agent	Neurogenesis	Differentiation
10-3479	Compound E	Gamma secretase inhibitor	ESC differentiation	Differentiation
10-3973	Compound 147 (AA147)	ATF6 activator; ER proteostasis	Stem cell differentiation	Differentiation
10-4032	Tazemetostat	EZH2 inhibitor	ESC dedifferentiation	Differentiation
10-4110	Galunisertib	TGFβ receptor 1 inhibitor / Cancer immunotherapeutic	HSC differentiation	Differentiation
10-4378	ICG-001	Wnt/β-catenin inhibitor	Cardiac stem cell differentiation	Differentiation
10-4505	PD173074	FGFR inhibitor	ESC/NSC differentiation/maintenance	Differentiation
10-4512	Zoledronic acid	Antiproliferative and apoptotic	MSC differentiation	Differentiation
10-4514	DAPT	gamma-secretase inhibitor	Differentiation	Differentiation
10-4542	UNC1999	Methyltransferase inhibitor	ESC dedifferentiation	Differentiation
10-4605	Wnt-C59	Porcupine inhibitor	Differentiation	Differentiation
10-4764	LDN-193189 HCl	Inhibitor of ALK2 and ALK3	NSC differentiation	Differentiation
10-4839	RK-33	DDX3 inhibitor	ESC differentiation	Differentiation
10-5081	IWR-1 endo	Tankyrase inhibitor; Wnt pathway inhibitor	Blocks differentiation	Differentiation
10-5125	IM-12	GSK-3β inhibitor	NSC differentiation	Differentiation
10-5145	Filgotinib	JAK1 inhibitor	Stem cell differentiation	Differentiation
10-5555	Pyridone 6	JAK inhibitor	Helps induce intermediate mesoderm differentiation	Differentiation
10-1191	Thiazovivin	Rho kinase inhibitor	Reprogramming/ Survival/iPS generation	Reprogramming
10-2121	Bexarotene	Retinoid RXR agonist	Myoblast reprogramming	Reprogramming