

Therapeutic Targets and Novel Therapies in MDS

Mechanism of Action	Therapeutic Compound
Inhibition of mitochondria mediated apoptosis	Erythropoietin, granulocyte colony-stimulating factors
Immunosuppression	Antithymocyte globulin, cyclosporine
Immunomodulatory agents	Thalidomide, lenalidomide
DNA methyltransferase inhibitors	Azacitidine, decitabine
Histone deacetylation inhibitors	Valproic acid, depsipeptide, MS275, vorinostat
Farnesyltransferase Inhibitors	Tipifarnib, lonafarnib
Chemotherapy	Clofarabine, cytarabine, anthracyclines, arsenic trioxide
Enzyme and kinase inhibition	Src family kinase inhibitors, imatinib
Thrombopoietic growth factors	Romiplostim, eltrombopag
Enzyme and kinase inhibition	Ezatiostat (TLK-199), Src family kinase inhibitors, imatinib
Monoclonal antibodies	Mylotarg
Chemotherapy	Clofarabine, cytarabine, anthracyclines
Inhibitors of angiogenesis	Bevacizumab
TNF- α inhibitors	Etanercept, lenalidomide
Apoptosis induction	Arsenic trioxide
Glutathione analog	TLK-199
Nucleoside analog	Sapacitabine
P38 MAPK inhibitor	SCIO-469
Proteasome inhibitor	Bortezomib