

Anticoagulants & Fibrinolytics

Generic	Brand	Class	Form
Heparin	UFH (abbreviation)	HMWH	PAR
Enoxaparin	Lovenox	LMWH	PAR
Dalteparin	Fragmin	LMWH	PAR
Warfarin	Coumadin	Coumarin Derivative (Vit K Antag.)	PO
Dabigatran	Pradaxa	Direct Thrombin Inhibitor	PO
Fondaparinux	Arixtra	Xa Inhibitor	PAR
Apixaban	Eliquis	Xa Inhibitor	PAR
Rivaroxaban	Xarelto	Xa Inhibitor	PO
Edoxaban	Savaysa	Xa Inhibitor	PO
Betrixaban	Bevyxxa	Xa Inhibitor	PO
Alteplase t-PA	Activase Cathflo	Fibrinolytic	IV Bolus & Infusion
Retepase rPA	Retavase	Fibrinolytic	IV Bolus
Tenecteplase TNK-tPA	TNKase	Fibrinolytic	IV Bolus

Drug Site of Action in Coagulation Cascade

Class	Drugs	Site of Action
Unfractionated Heparin	Heparin	ATIII, Xa, IIa, VIIa, IXa, XIa, & XIIa
LMWH	Enoxaparin, Dalteparin	ATIII, Xa, IIa
Factor Xa Inhibitor	Fondaparinux	ATIII, Xa
Vit K Antagonist	Warfarin	II, VII, IX, & X
Oral Xa Inhibitors	Apixaban, Rivaroxaban, Edoxaban, Betrixaban	Xa
Direct Thrombin Inhibitors	Dabigatran	IIa (Thrombin)
Fibrinolytics	Alteplase Retepase Tenecteplase	Fibrin

MOA for Therapies

Drug	MOA	Result
Heparin	↑ fcn of ATIII Significant inhibition of Xa & IIa Minor Inhibitor of VIIa, IXa, XIa, & XIIa	ACF become inactivated
Enoxaparin Dalteparin	↑ fcn of ATIII Significant inhibition of Xa Some inhibition of IIa	ACF become inactivated
Fondaparinux	↑ fcn of ATIII Significant inhibition of Xa Inhibition specific to Xa	ACF become inactivated
Warfarin	Targets Vit K dependent clotting factors (II, VII, IX, & X) Inhibits VKORC1	↓ KH2 KH2 is needed as a cofactor for carboxylase enzyme to activate dependent clotting factors ↓ Vit K dependent clotting factors are produced ↓ F II, VII, IX, & X
Apixaban Rivaroxaban Edoxaban Betrixaban	Blocks the active site for Factor Xa Does not affect antithrombin	Direct inhibition of Factor Xa
Dabigatran	Directly inhibits Factor IIa (Thrombin)	No conversion of fibrinogen to fibrin Prevents development of a thrombus
Alteplase (t-PA/r-tPA)	Converts plasminogen to plasmin	Breaks up clot

ACF: Active Clotting Factors

VKORC1: Vit K Epoxide Reductase - Enzyme responsible for converting Vit K epoxide to its reduced and active form (KH2)

KH2: Active Vit K