Thrombin

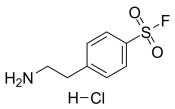
Thrombin is a Na^+-activated, serine protease which is activated by the enzymatic cleavage of two sites on prothrombin by activated Factor X. Thrombin exists in two allosteric forms, slow (S) and fast (F), target toward anticoagulant and procoagulant activities.

Thrombin is the main effector protease in primary hemostasis by activating platelets and plays a key role in secondary hemostasis. Besides its well-known functions in hemostasis, thrombin also plays a role in various non-hemostatic biological and pathophysiologic processes, predominantly mediated through activation of protease-activated receptors (PARs). PAR-1, PAR-3, and PAR-4 are cleaved by thrombin, whereas PAR-2 is cleaved by trypsin. Thrombin also plays a crucial role in the migration and metastasis of human cancer cells.

AEBSF hydrochloride

Cat. No.: HY-12821

AEBSF hydrochloride is an irreversible inhibitor of **serine proteases**, such as chymotrypsin, kallikrein, plasmin, thrombin, and trypsin.



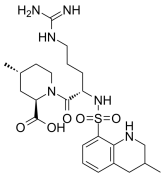
Purity: 99.90%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 100 mg, 200 mg

Argatroban

(MD-805; MCI-9038; Argipidine)

Cat. No.: HY-B0375

Argatroban (MD-805) is a direct, selective thrombin inhibitor.

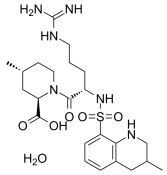


Purity: >98%
Clinical Data: Launched
Size: 1 mg, 5 mg

Argatroban monohydrate (MD-805 monohydrate; MCI-9038 monohydrate; Argipidine monohydrate)

Cat. No.: HY-B0375A

Argatroban (monohydrate) (MD-805 (monohydrate)) is a direct, selective thrombin inhibitor.

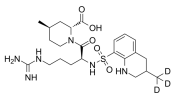


Purity: 99.96%
Clinical Data: Launched
Size: 10 mM × 1 mL, 10 mg, 50 mg, 100 mg

Argatroban-d3

Cat. No.: HY-B0375S

Argatroban-d3 is the deuterium labeled Argatroban. Argatroban (MD-805) is a direct, selective thrombin inhibitor.



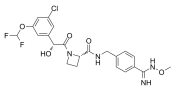
Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 10 mg

Atecegatran metoxil

(AZD0837; Atecegatran fexenetil)

Cat. No.: HY-10273

Atecegatran metoxil is a oral anticoagulant, which inhibits **thrombin factor II** and is used in thromboembolic disorders. In vivo, Atecegatran metoxil is converted to AR-H067637, a selective and reversible direct **thrombin** inhibitor.

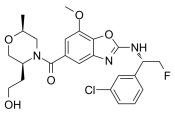


Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

BAY 1217224

Cat. No.: HY-142661

BAY 1217224 is a neutral, non-prodrug **Thrombin** inhibitor with good oral pharmacokinetics.



Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

Bivalirudin

Cat. No.: HY-P1929

Bivalirudin, a peptide anticoagulant, is a direct **thrombin** inhibitor for anticoagulation in the setting of invasive cardiology, particularly percutaneous coronary intervention.

Purity: >98%
Clinical Data: Launched
Size: 1 mg, 5 mg

Bivalirudin TFA

Cat. No.: HY-15664

Bivalirudin TFA is a synthetic 20 residue peptide which reversibly inhibits thrombin.

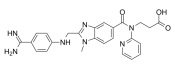
Purity: 99.89%
Clinical Data: Launched
Size: 10 mg, 50 mg, 100 mg

Dabigatran

(BIBR 953; BIBR 953ZW)

Cat. No.: HY-10163

Dabigatran (BIBR 953), an oral anticoagulant, is a reversible, potent, competitive direct **thrombin** inhibitor (K_i=4.5 nM). Dabigatran (BIBR 953) also inhibits thrombin-induced platelet aggregation (IC_{50}=10 nM).

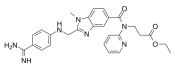


Purity: 98.65%
Clinical Data: Phase 4
Size: 5 mg, 10 mg, 50 mg, 100 mg

Dabigatran (ethyl ester)

Cat. No.: HY-17378

Dabigatran ethyl ester is an emerging oral anticoagulant which is a direct inhibitor of thrombin activity. IC50 value: Target: thrombin Dabigatran provides a stable anticoagulation effect without any need to perform periodical laboratory controls.

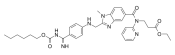


Purity: ≥98.0%
Clinical Data: No Development Reported
Size: 5 mg, 10 mg, 25 mg, 50 mg, 100 mg

Dabigatran etexilate

(BIBR 1048) Cat. No.: HY-10274

Dabigatran etexilate (BIBR 1048) is an orally active prodrug of Dabigatran (a direct inhibitor of thrombin). Dabigatran etexilate has anticoagulant effects and is used for the prophylaxis of venousthromboembolism and stroke due to atrial fibrillation.

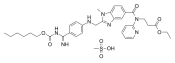


Purity: 99.75%
Clinical Data: Launched
Size: 10 mM × 1 mL, 5 mg, 10 mg, 50 mg, 100 mg

Dabigatran etexilate mesylate

(BIBR 1048MS; Dabigatran etexilate methanesulfonate) Cat. No.: HY-10274A

Dabigatran etexilate mesylate (BIBR 1048MS) is an orally active prodrug of Dabigatran (a direct inhibitor of thrombin). Dabigatran etexilate mesylate has anticoagulant effects and is used for the prophylaxis of venousthromboembolism and stroke due to atrial fibrillation.

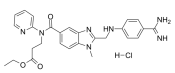


Purity: 99.60%
Clinical Data: Launched
Size: 10 mM × 1 mL, 2 mg, 5 mg, 10 mg, 50 mg, 100 mg, 200 mg

Dabigatran ethyl ester hydrochloride

Cat. No.: HY-77521

Dabigatran ethyl ester hydrochloride is a potent inhibitor of ribosyldihydronicotinamide dehydrogenase (**NQO2**) with an IC_{50} value of 0.8 μM and a **thrombin** inhibitor.

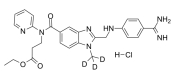


Purity: >98%
Clinical Data: Launched
Size: 10 mM × 1 mL, 5 mg, 10 mg, 25 mg, 50 mg, 100 mg

Dabigatran ethyl ester-d3 hydrochloride

Cat. No.: HY-77521S

Dabigatran ethyl ester-d3 hydrochloride is the deuterium labeled Dabigatran (ethyl ester hydrochloride).

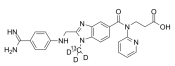


Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

Dabigatran-13C,d3

(BIBR 953-13C,d3; BIBR 953ZW-13C,d3) Cat. No.: HY-10163S3

Dabigatran-13C,d3 is the 13C- and deuterium labeled. Dabigatran (BIBR 953), an oral anticoagulant, is a reversible, potent, competitive direct thrombin inhibitor (Ki=4.5 nM).

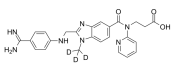


Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

Dabigatran-d3

(BIBR 953-d3; BIBR 953ZW-d3) Cat. No.: HY-10163S1

Dabigatran-d3 (BIBR 953-d3) is the deuterium labeled Dabigatran. Dabigatran (BIBR 953), an oral anticoagulant, is a reversible, potent, competitive direct **thrombin** inhibitor (K_i=4.5 nM). Dabigatran (BIBR 953) also inhibits thrombin-induced platelet aggregation (IC_{50}=10 nM).

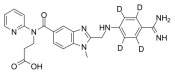


Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

Dabigatran-d4

(BIBR 953-d4; BIBR 953ZW-d4) Cat. No.: HY-10163S

Dabigatran-d4 is deuterium labeled Dabigatran. Dabigatran (BIBR 953), an oral anticoagulant, is a reversible, potent, competitive direct thrombin inhibitor (Ki=4.5 nM). Dabigatran (BIBR 953) also inhibits thrombin-induced platelet aggregation (IC50=10 nM).

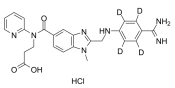


Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

Dabigatran-d4 hydrochloride

(BIBR-953-d4 hydrochloride) Cat. No.: HY-10163AS

Dabigatran (BIBR-953) D4 hydrochloride is deuterium labeled Dabigatran, which is a reversible and selective, direct thrombin inhibitor (DTI) with a K_i value of 4.5 nM.

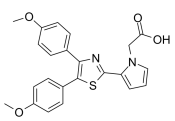


Purity: >98.0%
Clinical Data: No Development Reported
Size: 5 mg, 10 mg

Desethyl KBT-3022

Cat. No.: HY-U00039

Desethyl KBT-3022 is the main active metabolite of the new antiplatelet agent, KBT-3022.

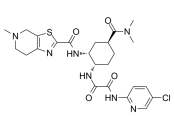


Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

Edoxaban

(DU-176) Cat. No.: HY-10264

Edoxaban (DU-176) is a selective, potent and orally active **factor Xa (FXa)** inhibitor with K_is of 0.561 nM and 2.98 nM for **free FXa** and **prothrombinase**, respectively. Edoxaban is an anticoagulant agent and can be used for stroke prevention.

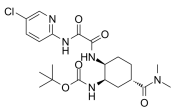


Purity: 99.59%
Clinical Data: Launched
Size: 10 mM × 1 mL, 5 mg, 10 mg, 50 mg, 100 mg

Edoxaban impurity 4

Cat. No.: HY-134686

Edoxaban impurity 4 is an impurity of Edoxaban. Edoxaban (DU-176) is a selective, potent and orally active **factor Xa (FXa)** inhibitor with K_is of 0.561 nM and 2.98 nM for **free FXa** and **prothrombinase**, respectively.



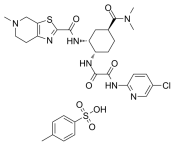
Purity: >98%
Clinical Data: No Development Reported
Size: 5 mg, 10 mg

Edoxaban tosylate

(DU-176b)

Cat. No.: HY-10264A

Edoxaban tosylate (DU-176b) is a selective, potent and orally active **factor Xa (FXa)** inhibitor with K_is of 0.561 nM and 2.98 nM for **free FXa** and **prothrombinase**, respectively. Edoxaban tosylate is an anticoagulant agent and can be used for stroke prevention.



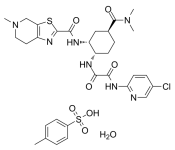
Purity: 99.47%
Clinical Data: Launched
Size: 10 mM × 1 mL, 5 mg, 10 mg, 50 mg, 100 mg

Edoxaban tosylate monohydrate

(DU-176b monohydrate)

Cat. No.: HY-10264B

Edoxaban tosylate monohydrate (DU-176b monohydrate) is a selective, potent and orally active **factor Xa (FXa)** inhibitor with K_is of 0.561 nM and 2.98 nM for **free FXa** and **prothrombinase**, respectively.



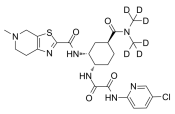
Purity: 99.95%
Clinical Data: Launched
Size: 10 mM × 1 mL, 5 mg, 10 mg, 50 mg, 100 mg

Edoxaban-d6

(DU-176-d6)

Cat. No.: HY-10264S

Edoxaban-d6 is deuterium labeled Edoxaban. Edoxaban (DU-176) is a selective, potent and orally active factor Xa (FXa) inhibitor with Kis of 0.561 nM and 2.98 nM for free FXa and prothrombinase, respectively.

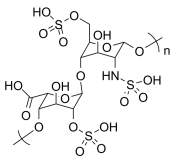


Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

Heparin

Cat. No.: HY-17567

Heparin is a highly sulfated glycosaminoglycan,that is widely used as an injectable anticoagulant, and has the highest negative charge density of any known biological molecule. Heparin significantly inhibits exosome-cell interactions.

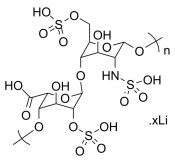


Purity: >98%
Clinical Data: Launched
Size: 10 mg(10 mg × mL in Water)

Heparin Lithium salt

Cat. No.: HY-17567B

Heparin Lithium salt is an anticoagulant which binds reversibly to **antithrombin III (ATIII)**. Heparin Lithium salt significantly inhibits exosome-cell interactions.



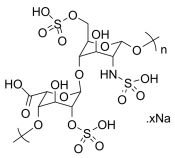
Purity: >98%
Clinical Data: Launched
Size: 10 mg(10 mg × mL in Water), 100 mg, 500 mg

Heparin sodium salt

(Sodium heparin; Sodium heparinate)

Cat. No.: HY-17567A

Heparin sodium salt (Sodium heparin) is an anticoagulant which binds reversibly to **antithrombin III (ATIII)** and greatly accelerates the rate at which ATIII inactivates coagulation enzymes **thrombin factor IIa** and **factor Xa**.



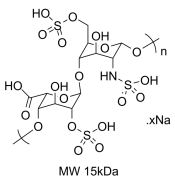
Purity: >98%
Clinical Data: Launched
Size: 100 mg, 500 mg, 1 g

Heparin sodium salt (MW 15kDa)

(Sodium heparin (MW 15kDa); Sodium heparinate (MW 15kDa))

Cat. No.: HY-17567C

Heparin sodium salt (MW 15kDa) (Sodium heparin (MW 15kDa)) is a polymer of Heparin with the molecular weight of 15kDa.



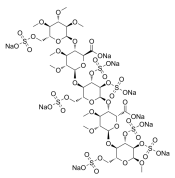
Purity: >98%
Clinical Data: Launched
Size: 100 mg, 500 mg

Idraparinux sodium

(SANORG 34006; SR-34006)

Cat. No.: HY-19691

Idraparinux (sodium) is a polymethylated synthetic pentasaccharide known to interact with the **antithrombin III** and act as anticoagulant.



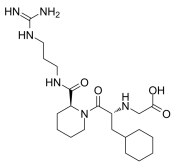
Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

Inogatran

(H-314-27)

Cat. No.: HY-19660

Inogatran (H-314-27) is a synthetic **thrombin** inhibitor, developed for the possible treatment and prophylaxis of arterial and venous thrombotic diseases.

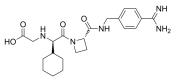


Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

Melagatran

Cat. No.: HY-129056

Melagatran is a direct and orally active inhibitor of **thrombin**, without interacting with any other enzymes in the coagulation cascade or fibrinolytic enzymes aside from thrombin.



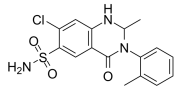
Purity: >98%
Clinical Data:
Size: 1 mg, 5 mg, 10 mg

Metolazone

(SR-720-22)

Cat. No.: HY-B0209

Metolazone (SR-720-22) is primarily used to treat congestive heart failure and high blood pressure.



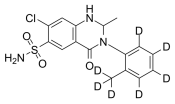
Purity: 99.86%
Clinical Data: Launched
Size: 10 mM × 1 mL, 50 mg, 100 mg

Metolazone-d7

(SR-720-22-d7)

Cat. No.: HY-B0209S

Metolazone-d7 is deuterium labeled Metolazone. Metolazone (SR-720-22) is primarily used to treat congestive heart failure and high blood pressure.



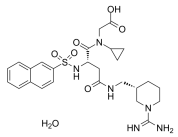
Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

Napsagatran hydrate

(Ro 46-6240 hydrate; Ro 46-6240/010 hydrate)

Cat. No.: HY-15759A

Napsagatran hydrate is a novel and specific **thrombin** inhibitor.

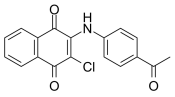


Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

NQ301

Cat. No.: HY-101054

NQ301 is an antithrombotic agent; inhibits collagen-challenged rabbit platelet aggregation with an IC_{50} of 10 mg/mL.



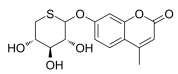
Purity: 98.12%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 25 mg, 50 mg, 100 mg

Odiparcil

(SB-424323)

Cat. No.: HY-10277

Odiparcil (SB-424323) is an orally active beta-d-thioxyloside analog with antithrombotic activity associated with a reduced risk of adverse bleeding events.

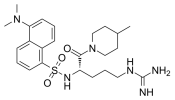


Purity: ≥99.0%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

OM-189

Cat. No.: HY-100245

OM-189 is a selective synthetic **thrombin** inhibitor.



Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

Protamine sulfate

Cat. No.: HY-107911

Protamine sulfate, polycationic peptide and a antiheparin agent, could neutralize the anticoagulant action of heparin and enhances lipid-mediated gene transfer.

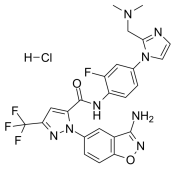
Purity: >98%
Clinical Data: Launched
Size: 100 mg

Razaxaban hydrochloride

(BMS 561389 hydrochloride; DPC 906 hydrochloride)

Cat. No.: HY-11091

Razaxaban hydrochloride (BMS 561389 hydrochloride) is a highly potent, selective and orally active **factor Xa** inhibitor with a K_i of 0.19 nM. Razaxaban hydrochloride exhibits excellent selectivity (>5000-fold) for **factor Xa** over other related serine proteases.



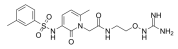
Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

RWJ-445167

(3DP-10017)

Cat. No.: HY-19373

RWJ-445167 (3DP-10017) is a dual inhibitor of **thrombin** and **factor Xa** with K_i of 4.0 nM and 230 nM, respectively, exhibiting potent antithrombotic activity.



Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

Sfllrnpndkyepf

Cat. No.: HY-P1000

Sfllrnpndkyepf is a synthetic **thrombin** receptor agonist peptide.

SFLLRNPNDKYEPF

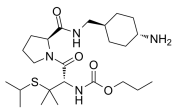
Purity: 97.23%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg, 10 mg

Sofigatran

(MCC-977)

Cat. No.: HY-14936

Sofigatran (MCC-977) is an orally active **factor IIa (thrombin)** inhibitor, acts as an anticoagulant. Sofigatran is used for the research of cardiovascular disease.



Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

Thrombin (MW 37kDa)

Cat. No.: HY-114164

Thrombin (MW 37kDa) is a Na^+-activated, allosteric serine protease that plays opposing functional roles in blood coagulation. Thrombin recognition sequence and can be used to digest GST-tagged proteins.

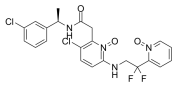
Thrombin

Purity: >98%
Clinical Data: Phase 4
Size: 1000 U, 2000 U

Thrombin inhibitor 1

Cat. No.: HY-U00370

Thrombin inhibitor 1 is a potent **thrombin** inhibitor (K_i=0.66 nM, 2xaPTT=0.43 μM).

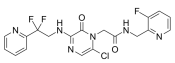


Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

Thrombin Inhibitor 2

Cat. No.: HY-10217

Thrombin Inhibitor 2 is a small molecule direct **thrombin** inhibitor, extracted from US8541580B2. Thrombin Inhibitor 2 has antithrombotic activity.



Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

TP508

Cat. No.: HY-P0316

TP508 is a 23-amino acid nonproteolytic **thrombin** peptide that represents a portion of the receptor-binding domain of thrombin molecule. TP508 activates endothelial **NO synthase (eNOS)** and stimulates production of NO in human endothelial cells.

AGYKPDEGKRGDACEGDSGGPFV

Purity: >98%
Clinical Data: Phase 2
Size: 1 mg, 5 mg

TP508 TFA

Cat. No.: HY-P0316A

TP508 TFA is a 23-amino acid nonproteolytic **thrombin** peptide that represents a portion of the receptor-binding domain of thrombin molecule. TP508 TFA activates endothelial **NO synthase (eNOS)** and stimulates production of NO in human endothelial cells.

AGYKPDEGKRGDACEGDSGGPFV (TFA salt)

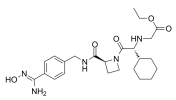
Purity: 99.79%
Clinical Data: No Development Reported
Size: 5 mg, 10 mg, 50 mg

Ximelagatran

(H 376/95)

Cat. No.: HY-10787

Ximelagatran (H 376/95) is an orally active **thrombin** inhibitor that selectively and competitively inhibits both free and clot-bound **thrombin**.



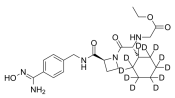
Purity: ≥98.0%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 500 μg, 1 mg, 5 mg, 10 mg, 25 mg

Ximelagatran-d11

(H 376/95-d11)

Cat. No.: HY-10787S

Ximelagatran-d11 (H 376/95-d11) is the deuterium labeled Ximelagatran. Ximelagatran (H 376/95) is an orally active **thrombin** inhibitor that selectively and competitively inhibits both free and clot-bound **thrombin**.



Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg