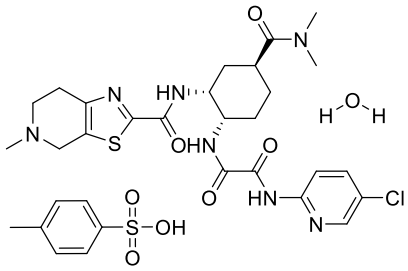
Product data sheet

MedKoo Cat#: 314259 Name: Edoxaban tosylate monohydrate CAS#: 1229194-11-9 (tosylate hydrate) Chemical Formula: $C_{31}H_{40}ClN_7O_8S_2$ Molecular Weight: 738.272	
Product supplied as:	Powder
Purity (by HPLC):	≥ 98%
Shipping conditions	Ambient temperature
Storage conditions:	Powder: -20°C 3 years; 4°C 2 years.
	In solvent: -80°C 3 months; -20°C 2 weeks.

1. Product description:

Edoxaban is a potent, selective factor Xa inhibitor, which has good oral bioavailability. Edoxaban is an anticoagulant drug which acts as a direct factor Xa inhibitor. It is being developed by Daiichi Sankyo. It was approved in July 2011 in Japan for prevention of venous thromboembolisms (VTE) following lower-limb orthopedic surgery. It was also approved by the FDA in January 2015 for the prevention of stroke and non–central-nervous-system systemic embolism.

2. CoA, QC data, SDS, and handling instruction

SDS and handling instruction, CoA with copies of QC data (NMR, HPLC and MS analytical spectra) can be downloaded from the product web page under "QC And Documents" section. Note: copies of analytical spectra may not be available if the product is being supplied by MedKoo partners. Whether the product was made by MedKoo or provided by its partners, the quality is 100% guaranteed.

3. Solubility data

Solvent	Max Conc. mg/mL	Max Conc. mM
DMSO	75.0	101.59
Water	1.0	1.35

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	1.35 mL	6.77 mL	13.55 mL
5 mM	0.27 mL	1.35 mL	2.71 mL
10 mM	0.14 mL	0.68 mL	1.35 mL
50 mM	0.03 mL	0.14 mL	0.27 mL

5. Molarity Calculator, Reconstitution Calculator, Dilution Calculator

Please refer the product web page under section of "Calculator"

6. Recommended literature which reported protocols for in vitro and in vivo study

In vitro study

1. Hillarp A, Strandberg K, Baghaei F, Fagerberg Blixter I, Gustafsson KM, Lindahl TL. Effects of the oral, direct factor Xa inhibitor edoxaban on routine coagulation assays, lupus anticoagulant and anti-Xa assays. Scand J Clin Lab Invest. 2018 Nov-Dec;78(7-8):575-583. doi: 10.1080/00365513.2018.1522664. Epub 2018 Oct 2. PMID: 30278787.
2. Samama MM, Mendell J, Guinet C, Le Flem L, Kunitada S. In vitro study of the anticoagulant effects of edoxaban and its effect on thrombin generation in comparison to fondaparinux. Thromb Res. 2012 Apr;129(4):e77-82. doi: 10.1016/j.thromres.2011.07.026. Epub 2011 Aug 17. PMID: 21851967.

In vivo study

1. Nagata N, Kawasumi M, Fujimura A, Ando H. Edoxaban Dosing Time Affects Blood Coagulation Inhibition in Rats. TH Open. 2021 Apr 14;5(2):e107-e112. doi: 10.1055/s-0041-1725041. PMID: 33870074; PMCID: PMC8046513.
2. Morishima Y, Shibutani T, Noguchi K, Ito Y, Honda Y. Edoxaban, a direct oral factor Xa inhibitor, ameliorates coagulation, microvascular thrombus formation, and acute liver injury in a lipopolysaccharide-induced coagulopathy model in rats. J Thromb Thrombolysis. 2021 Feb 3:1–9. doi: 10.1007/s11239-021-02381-y. Epub ahead of print. PMID: 33534029; PMCID: PMC7856452.

7. Bioactivity

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Biological target:

Edoxaban tosylate monohydrate (DU-176b monohydrate) is a factor Xa (FXa) inhibitor with Kis of 0.561 nM and 2.98 nM for free FXa and prothrombinase, respectively.

In vitro activity

Edoxaban exhibited a dose-dependent increase in anti-FXa activity; additional dilutions with normal plasma were required for edoxaban concentrations greater than 0.2 μg/mL (Fig. 4a). An assay specific for direct FXa inhibitors that is unaffected by the presence of heparin (Hyphen BioMed method) showed a concentration-dependent inhibition of OD405 by edoxaban, confirming a direct inhibitory effect on FXa activity (Fig. 4b).

Reference: Thromb Res. 2012 Apr;129(4):e77-82. https://pubmed.ncbi.nlm.nih.gov/21851967/

In vivo activity

In this LPS-induced thrombosis rat model, the direct FXa inhibitor, edoxaban, significantly inhibited the hypercoagulation, the fibrin deposition in the liver, and the elevation of the liver damage parameters in a dose-dependent manner. Furthermore, edoxaban significantly reduced mortality caused by LPS. However, edoxaban did not suppressed the elevation of inflammatory cytokines and the kidney damage.

Reference: J Thromb Thrombolysis. 2021 Feb 3 : 1–9. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7856452/

Note: The information listed here was extracted from literature. MedKoo has not independently retested and confirmed the accuracy of these methods. Customer should use it just for a reference only.