PRODUCT INFORMATION

Tirofiban (hydrochloride hydrate)
Item No. 23392

CAS Registry No.: 150915-40-5
Formal Name: N-(butylsulfonyl)-O-[4-(4-piperidinyl)butyl]-L-tyrosine, monohydrochloride, monohydrate
MF: C22H36N2O5S • HCl [H2O]
FW: 495.1
Purity: ≥98%
UV/Vis.: λmax: 228, 277 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥2 years

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Tirofiban (hydrochloride hydrate) is supplied as a crystalline solid. A stock solution may be made by dissolving the tirofiban (hydrochloride hydrate) in the solvent of choice. Tirofiban (hydrochloride hydrate) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide, which should be purged with an inert gas. The solubility of tirofiban (hydrochloride hydrate) in these solvents is approximately 30 mg/ml.

Tirofiban (hydrochloride hydrate) is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, tirofiban (hydrochloride hydrate) should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. Tirofiban (hydrochloride hydrate) has a solubility of approximately 0.05 mg/ml in a 1:20 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Tirofiban is a potent nonpeptide glycoprotein IIb/IIIa antagonist (GPIIb/IIIa; IC50 = 5 nM in a radioligand binding assay).1 It inhibits GPIIb/IIIa-dependent platelet aggregation with an IC50 value of 11 nM. Tirofiban is selective for platelet GPIIb/IIIa, only inhibiting human umbilical vein endothelial cell (HUVEC) attachment to microtiter plates containing fibrinogen (Fg), human vitronectin (Vn), or human fibronectin (Fn) at concentrations >10,000-fold above the IC50 for platelet aggregation. Tirofiban (300 and 1,000 μg/kg per minute, i.v.) prevents occlusive thrombosis and reduces thrombus mass in a canine model of electrically-induced coronary artery occlusive thrombosis.2 Formulations containing tirofiban have been used to prevent thrombotic occlusion associated with coronary angioplasty.3

References