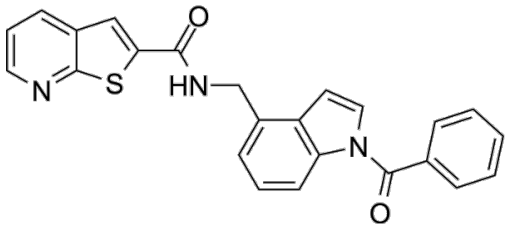
Product Data Sheet

Product Name: STA-013
Cat. No.: GC79464

Chemical Properties

Cas. No.			
Formula	$C_{24}H_{17}N_3O_2S$	M.Wt	411.48
Solubility	DMSO: 25 mg/mL (60.76 mM; Need ultrasonic)	Storage	Store at -20°C
General tips	For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20°C for several months.		
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.		
Structure			



Background

STA-013 is a EphB tyrosine kinase inhibitor. STA-013 shows promising potency against EphB1 (IC_{50} = 0.69 μM), EphB2 (IC_{50} = 1.73 μM), and EphB4 (IC_{50} = 1.02 μM) tyrosine kinases. STA-013 results a inhibition of the EphB phosphorylated signal, coupled with increased p-AKT / AKT signaling, to suggest insulin signaling activation. STA-013 inhibits EphB tyrosine kinase by enhancing insulin receptor beta (IRβ) signaling, and decreasing TGF-β levels in the heart. STA-013 can be used for the study of type 2 diabetes and cardiac complications (diabetic cardiomyopathy) [1].

Caution: Product has not been fully validated for medical applications. For research use only.
Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com
Address: 10292 Central Ave. #205, Montclair, CA, USA

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In Vivo, STA-013 (12.5, 25 and 50 mg/kg, i.p., daily for 6 weeks) promotes weight loss, improves glucose clearance and insulin sensitivity, and enhances insulin signaling in isolated brown adipose tissue and liver in high-fat diet-induced C57BL/6J mice. In these obese mice [1]. STA-013 (12.5, 25 and50 mg/kg, i.p., daily for 6 weeks) induces weight loss not through reduced food intake or elevated metabolic rates in DIO mice[1].

In Vitro, STA-013 (5 μM) inhibits EphB1 (54%), EphB2 (42%), EphB4 (52%), SGK1 (47%), and PKBb (43%) without affecting the rest of 140 kinases via kinome profiling assay[1]. STA-013 (0.032-20 μM, 96 h) significantly inhibits lipid accumulation in a dose-dependent manner in the embryonic mouse 3T3-L1 cells[1]. STA-013 (1 μM, 30 min) results a significant reduction in basal respiration, proton leak, ATP production, and non-mitochondrial oxygen consumption, increases maximal respiration and spare respiratory capacity, exhibits a significant increase in glycolysis and glycolytic capacity and reduces palmitate oxidation in 3T3-L1 cells[1].

References:
[1]. Tareq S,et al. Discovery of pan-EphB tyrosine kinase inhibitor for metabolic syndrome sparing EphB3 signaling in mice. Pharmacol Res. 2025 Sep;219:107900.

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