Product Data Sheet

Product Name: H-Gln-βNA . HCl
Cat. No.: GA22342

Chemical Properties

Cas. No.	201988-95-6		
Formula	$C_{15}H_{17}N_{3}O_{2}$ · HCl	M.Wt	307.8
Solubility	Soluble in DMSO	Storage	Store at -20°C,protect from light
General tips	For obtaining a higher solubility , please warm the tube at 37 ℃ and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20℃ 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	H-Gln-βNA . HCl		

Protocol

□□H-Gln-βNA . HCl□□□□□□□□□□[1]

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1. □□□

□1□□□□□□□□□□□□□□DMSO□□□□□1mM□H-Gln-βNA . HCl□□□□□□□□□□□□□□□□□
□□□□-20°C□□□□□□□□□

□2□□□□□□PBS□□□□□□□□□□□100μM□□□□□□□□□□□□□□□□□□□□□□□□□□□□
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2. □□□□

□□□□□□□□□□□10mM Tris□100mM NaCl□5mM EDTA□0.5%Triton X-100□10%□□□□□□
□pH 7.5□□□□□□□□□□□□□□16000×g□□□4°C□□30□□□□glutaminyl cyclase□iso-
glutaminyl cyclase□□□□□□□□□□□5-7mg/ml□

3. □□□□

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□□□□□50μM□H-Gln-βNA . HCl□25mM□MOPS□□□pH 7.0□□□0.1mM□N-□□□□□□□□□□□□□□□□□□□□□□□□□□□1ml□□□□□□37°C□□□□□□□□□□□1□□□□□□□□□5□□□□□10□□□□□□16000×g□□□□□□□□□□□□□□□□□□□□□□20μl□□□□□□□□□□□□□□□A□□0.1%TFA□□□□□□□□8%□□□20%□□□□□B□□0.1%TFA□H_2O□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□pGlu-βNA□□□□□□□□□□

4. □□□□□

□1□□□□□□□□□□□□□□□□□□□□

□2□□

□3□H-Gln-βNA . HCl□□□□□□□□□□□□□□□□□□□□

□4□□□□□□□□□□□□□□□□□□□□□□□□□□

References:

[1] Schilling S, Kohlmann S, Bäuscher C, et al. Glutaminyl cyclase knock-out mice exhibit slight hypothyroidism but no hypogonadism: implications for enzyme function and drug development[J]. Journal of Biological Chemistry, 2011, 286(16): 14199-14208.

Background

H-Gln-βNA . HCl is a specific fluorescent substrate for glutaminyl cyclase, with the excitation wavelength of 320nm and emission wavelength of 410nm[1]. H-Gln-βNA . HCl can be used to detect the activity-dependent secretion of glutaminyl cyclase in the secretory products of chromaffin cells[2]. H-Gln-βNA . HCl can be used to evaluate the glutaminyl cyclase inhibitors related to metal chelating agents and imidazole derivatives[3].

References:

[1] Koch B, Kolenko P, Buchholz M, et al. Crystal structures of glutaminyl cyclases (QCs) from Drosophila melanogaster reveal active site conservation between insect and mammalian QCs[J]. Biochemistry, 2012, 51(37): 7383-7392.
[2] Cynis H, Funkelstein L, Toneff T, et al. Pyroglutamate-amyloid-β and glutaminyl cyclase are colocalized with amyloid-β in secretory vesicles and undergo activity-dependent, regulated secretion[J]. Neurodegenerative Diseases, 2014, 14(2): 85-97.
[3] Huang K F, Hsu H L, Karim S, et al. Structural and functional analyses of a glutaminyl

cyclase from Ixodes scapularis reveal metal-independent catalysis and inhibitor binding[J]. Biological Crystallography, 2014, 70(3): 789-801.

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