Product Data Sheet

Product Name: Crosstide
Cat. No.: GC30582

Chemical Properties

Cas. No.	171783-05-4		
SMILES	Gly-Arg-Pro-Arg-Thr-Ser-Ser-Phe-Ala-Glu-Gly		
Formula	$C_{48}H_{77}N_{17}O_{17}$	M.Wt	1164.23
Solubility	Water : ≥ 50 mg/mL (42.95 mM)	Storage	Store at -20°C
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	Crosstide		

Protocol

Kinase experiment:

After serum deprivation for 24 h, cells are incubated with digoxigenin-labeled sham protein or digoxigenin-labeled RV39 at an MOI of 1.0 for 10 min. Cell homogenates are immunoprecipitated with mouse anti-digoxigenin antibody and precipitates incubated with Crosstide and [γ-32P]ATP. Crosstide is a glycogen synthase kinase α/β fusion protein sequence (GRPRTSSFAEG) which is a substrate for Akt. Samples are processed for autoradiography and immunoblotting using rabbit anti-phospho-Tyr416 Src, mouse anti-Src (clone GD11), rabbit anti-phospho-Ser473, or rabbit anti-Akt.

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References:

[1]. Bentley JK, et al. Rhinovirus activates interleukin-8 expression via a Src/p110beta phosphatidylinositol 3-kinase/Akt pathway in human airway epithelial cells. J Virol. 2007 Feb;81(3):1186-94. Epub 2006 Nov 22.
[2]. Baer K, et al. Activation of a GST-tagged AKT2/PKBbeta. Biochim Biophys Acta. 2005 Oct 10;1725(3):340-7. Epub 2005 Apr 20.

Background

Crosstide is a synthetic peptide substrate for Akt.[1] It corresponds to the amino acid sequence of glycogen synthase kinase 3 (GSK3) that surrounds the serine residue phosphorylated by p90 ribosomal S6 kinase 1 (RSK1) or p70 ribosomal S6 kinase (p70S6K). Crosstide has been used in the study of Akt activity.[1,2] It is also a substrate for serum/glucocorticoid-regulated kinase family member 3 (SGK3).[3]

1.Cross, D.A.E., Slessi, D.R., Cohen, P., et al.Inhibition of glycogen synthase kinase-3 by insulin mediated by protein kinase BNature378(6559)785-789(1995) 2.Tanti, J.-F., Grillo, S., Gremeaux, T., et al.Potential role of protein kinase B in glucose transporter 4 translocation in adipocytesEndocrinology138(5)2005-2010(1997) 3.Dai, F., Yu, L., He, H., et al.Human serum and glucocorticoid-inducible kinase-like kinase (SGKL)

phosphorylates glycogen syntheses kinase 3 beta (GSK-3β) at serine-9 through direct interactionBiochem. Biophys. Res. Commun.293(4)1191-1196(2002)

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