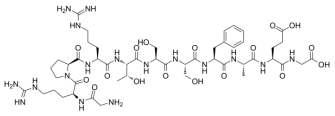
Crosstide



Cat. No.:	HY-P0315
CAS No.:	171783-05-4
Molecular Formula:	$C_{48}H_{77}N_{17}O_{17}$
Molecular Weight:	1164.23
Sequence:	Gly-Arg-Pro-Arg-Thr-Ser-Ser-Phe-Ala-Glu-Gly
Sequence Shortening:	GRPRTSSFAEG
Target:	Akt
Pathway:	PI3K/Akt/mTOR
Storage:	Sealed storage, away from moisture Powder -80°C 2 years -20°C 1 year * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)

SOLVENT & SOLUBILITY

In Vitro

H_2O : ≥ 50 mg/mL (42.95 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	0.8589 mL	4.2947 mL	8.5894 mL
5 mM	0.1718 mL	0.8589 mL	1.7179 mL
10 mM	0.0859 mL	0.4295 mL	0.8589 mL

Please refer to the solubility information to select the appropriate solvent.

BIOLOGICAL ACTIVITY

Description

Crosstide is a peptide analog of glycogen synthase kinase α/β fusion protein sequence which is a substrate for Akt.

In Vitro

16HBE14o− cells exposed to RV39 demonstrate a crosstide kinase activity in vitro. Serine phosphorylation of crosstide is confirmed by immunoblotting, and phosphorylation is blocked by PP2 but not by PP3[1]. The wildtype GST-AKT2 shows significant phosphoryl transferase activity towards crosstide, reaching an initial velocity of 16 pmol phosphate/min/μg enzyme. The mutant GST-AKT2T/E,S/D displayed an initial velocity of 85 pmol phosphate/min/μg kinase for phosphorylation of Crosstide, corresponding to a 5-fold increase compared to the wildtype enzyme[2].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

PROTOCOL

Kinase Assay [1]	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-^{32}P]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-Tyr^{416} Src, mouse anti-Src (clone GD11), rabbit anti-phospho-Ser^{473}, or rabbit anti-Akt. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- FASEB J. 2021 May;35(5):e21526.

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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.

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