Product Data Sheet

Product Name: Substance P 7-11
Cat. No.: GC37698

Chemical Properties

Cas. No.	51165-05-0		
Formula	$C_{31}H_{44}N_6O_5S$	M.Wt	612.78
Solubility	H_2O : 1.96 mg/mL (3.20 mM; ultrasonic and adjust pH to 2 with HCl)	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	Substance P 7-11		

Protocol

Cell experiment:

Confluent chondrocytes are incubated for 24 h with SP or Substance P (7-11). TIMP activity is inactivated following reduction and alkylation with 2 mM dithiothreitol and 5 mM iodoacetamide for 30 min at 37°C. Samples are subsequently dialysed. Latent collagenase is activated with 1 mM APt followed by inactivation with soy bean trypsin inhibitor. Collagenase is measured[1].

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com
Address: 10292 Central Ave. #205, Montclair, CA, USA

References:

[1]. Halliday DA, et al. The substance P fragment SP-(7-11) increases prostaglandin E2, intracellular Ca2+ and collagenase production in bovine articular chondrocytes. Biochem J. 1993 May 15;292 (Pt 1):57-62.

Background

Substance P (7-11) is a C-terminal fragment of Substance P which can cause an increase in the intracellular calcium concentration.

Substance P (7-11) increases PGE2 and collagenase production at concentrations greater than 1 μM. Substance P (7-11), but not intact SP, SP-(1-4), SP-(1-6), SP- (8-11) or SP-(9-11), nor the tachykinins NKA and NKB, causes an increase in the intracellular calcium concentration as measured by the fluorescent dye Fura-2. The maximal change in intracellular calcium induced by 10 μM Substance P (7-11) was 140±30 nM[1].

[1]. Halliday DA, et al. The substance P fragment SP-(7-11) increases prostaglandin E2, intracellular Ca2+ and collagenase production in bovine articular chondrocytes. Biochem J. 1993 May 15;292 (Pt 1):57-62.

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