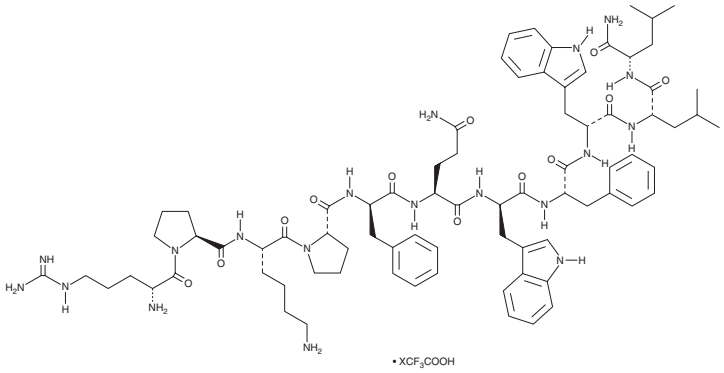
PRODUCT INFORMATION

[D-Arg^{1},D-Phe^{5},D-Trp^{7,9},Leu^{11}]Substance P (trifluoroacetate salt)

Item No. 24829



Formal Name:	D-arginyl-L-prolyl-L-lysyl-L-prolyl-D-phenylalanyl-L-glutaminyl-D-tryptophyl-L-phenylalanyl-D-tryptophyl-L-leucyl-L-leucinamide, trifluoroacetate salt
Synonyms:	D-Phe^{5}SP, L-756,867, SPD-D
MF:	$C_{79}H_{109}N_{19}O_{12} \bullet XCF_3COOH$
FW:	1,516.8
Purity:	≥95%
Supplied as:	A lyophilized powder
Storage:	-20°C
Stability:	≥4 years

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

[D-Arg^{1},D-Phe^{5},D-Trp^{7,9},Leu^{11}]Substance P (SPD-D) (trifluoroacetate salt) is supplied as a lyophilized powder. A stock solution may be made by dissolving the SPD-D (trifluoroacetate salt) in water. The solubility of SPD-D (trifluoroacetate salt) in water is approximately 1 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

SPD-D is an analog of substance P (Item No. 24035) and a broad-spectrum neuropeptide antagonist with anticancer activity.[1] It blocks intracellular calcium increases induced by vasopressin, bradykinin (Item No. 15539), gastrin (Item No. 24457), and galanin (Item No. 24456) in H-510 small cell lung carcinoma (SCLC) cells. SPD-D also blocks vasopressin- and bradykinin-induced MAPK signaling in H-510 SCLC cells in a concentration-dependent manner. It inhibits DNA synthesis in a panel of cancer cell lines (IC_{50}s = 20-50 µM) and reduces colony formation of HC12, ICR-SC112, HX149, and NCI-H226 cancer cells *in vitro* (IC_{50}s = 0.5-6.5 µM).[2] *In vivo*, SPD-D (2.1 µg, s.c.) inhibits tumor growth in HC12 and ICR-SC112 SCLC mouse xenograft models.[3]

References

1. Seckl, M.J., Higgins, T., Widmer, F., *et al.* [D-Arg^{1},D-Trp^{5,7,9},Leu^{11}]substance P: A novel potent inhibitor of signal transduction and growth *in vitro* and *in vivo* in small cell lung cancer cells. *Cancer Res.* **57(1)**, 51-54 (1997).
2. Everard, M.J., Macaulay, V.M., Miller, J.L., *et al. In vitro* effects of substance P analogue [D-Arg^{1}, D-Phe^{5}, D-Trp^{7,9}, Leu^{11}] substance P on human tumour and normal cell growth. *Br. J. Cancer* **65(3)**, 388-392 (1992).
3. Everard, M.J., Macaulay, V.M., Millar, J.L., *et al.* [D-Arg^{1}, D-Phe^{5}, D-Trp^{7,9}, Leu^{11}] substance P inhibits the growth of human small cell lung cancer xenografts *in vivo*. *Eur. J. Cancer* **29A(10)**, 1450-1453 (1993).

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