

## Product Data Sheet

Product Name: CXCL9 (74-103) (human) (trifluoroacetate salt)

Cat. No.: GC91864

### Chemical Properties

Cas. No. N/A

Formula  $C_{158}H_{295}N_{59}O_{40} \cdot XCF_3COOH$  M.Wt 3661.4

Solubility Water: Soluble Storage  $-20^{\circ}C$

General tips For obtaining a higher solubility, please warm the tube at  $37^{\circ}C$  and shake it in the ultrasonic bath for a while. Stock solution can be stored below  $-20^{\circ}C$  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—Lys—Lys—Lys—Gln—Lys—Asn—Gly—Lys—Lys—His—  
 Gln—Lys—Lys—Lys—Val—Leu—Lys—Val—Arg—Lys—  
 Ser—Gln—Arg—Ser—Arg—Gln—Lys—Lys—Thr—Thr—OH  
 •  $XCF_3COOH$

### Background

Chemokine (C-X-C motif) ligand 9 (CXCL9) (74-103) is a C-terminal fragment of mature CXCL9.<sup>[1]</sup> It binds to the glycosaminoglycan heparin in a cell-free assay ( $K_D = 3.1$  nM).<sup>[2]</sup> CXCL9 (74-103) inhibits the binding of CXCL8 or CXCL11 to heparin, as well as chemokine (C-C motif) ligand 2 (CCL2) binding to heparan sulfate, in a concentration-dependent manner.<sup>[1]</sup> Unlike full-length CXCL9, CXCL9 (74-103) does not increase intracellular calcium levels in CHO cells expressing human CXC receptor 3 (CXCR3). CXCL9 (74-103) reduces the cytopathogenic effect of respiratory syncytial virus (RSV) in HeLa cells, herpes simplex virus 1 (HSV-1) in human embryonic lung (HEL) cells, and dengue virus serotype 2 in HMEC-1 cells ( $EC_{50}$ s = 23, 15, and 11  $\mu M$ , respectively).<sup>[2]</sup> It inhibits CXCL8 (1-77)- or monosodium urate-induced neutrophil extravasation to the tibiofemoral articulation in mouse models of acute inflammation or gout, respectively, when administered at a dose of 100  $\mu g$ /animal.<sup>[1]</sup> CXCL9 (74-103) increases survival and decreases liver neutrophil infiltration and necrosis in a mouse model of liver injury induced by acetaminophen.<sup>[3]</sup> Intravenous administration of CXCL9 (74-103) (100  $\mu l$  of a 1 mg/ml solution) decreases bronchoalveolar lavage fluid (BALF) neutrophil infiltration and IL-1 $\beta$  levels, but does not reduce lung bacterial burden, in a mouse model

**Caution: Product has not been fully validated for medical applications. For research use only.**

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of *K. pneumoniae*-induced pneumonia.<sup>[4]</sup>

### References:

- [1].Vanheule, V., Janssens, R., Boff, D., et al. The positively charged COOH-terminal glycosaminoglycan-binding CXCL9(74-103) peptide inhibits CXCL8-induced neutrophil extravasation and monosodium urate crystal-induced gout in mice. *J. Biol. Chem.* 290(35):21292-21304 (2015).
- [2].Vanheule, V., Vervaeke, P., Mortier, A., et al. Basic chemokine-derived glycosaminoglycan binding peptides exert antiviral properties against dengue virus serotype 2, herpes simplex virus-1 and respiratory syncytial virus. *Biochem. Pharmacol.* 100:73-85 (2016).
- [3].Marques, P.E., Vandendriessche, S., de Oliveira, T.H.C., et al. Inhibition of drug-induced liver injury in mice using a positively charged peptide that binds DNA. *Hepatol. Commun.* 5(10):1737-1754 (2021).
- [4].Boff, D., Russo, R.C., Crijns, H., et al. The therapeutic treatment with the GAG-binding chemokine fragment CXCL9(74-103) attenuates neutrophilic inflammation and lung dysfunction during *Klebsiella pneumoniae* infection in mice. *Int. J. Mol. Sci.* 23(11):6246 (2022).

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