

# PRODUCT INFORMATION



## CXCL9 (74-103) (human) (trifluoroacetate salt)

Item No. 38849

**Synonyms:** Chemokine (C-X-C motif) Ligand 9 (74-103), MIG30, Monokine Induced by Interferon- $\gamma$  (74-103)

**Peptide Sequence:** KKKQKNGKKHKQKKKVLKVRKSRQSRQKKT-OH

**MF:** C<sub>158</sub>H<sub>295</sub>N<sub>59</sub>O<sub>40</sub> • XCF<sub>3</sub>COOH

**FW:** 3,661.4

**Purity:**  $\geq$ 98%

**Supplied as:** A solid

**Storage:** -20°C

**Stability:**  $\geq$ 4 years

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<sub>3</sub>COOH

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

### Laboratory Procedures

Chemokine (C-X-C motif) ligand 9 (CXCL9) (74-103) (human) (trifluoroacetate salt) is supplied as a solid. A stock solution may be made by dissolving the CXCL9 (74-103) (human) (trifluoroacetate salt) in water. We do not recommend storing the aqueous solution for more than one day.

### Description

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 (Item No. 10024).<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 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. *Hepatology*. **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).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

#### WARRANTY AND LIMITATION OF REMEDY

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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#### CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD  
ANN ARBOR, MI 48108 · USA

**PHONE:** [800] 364-9897  
[734] 971-3335

**FAX:** [734] 971-3640

CUSTSERV@CAYMANCHEM.COM  
WWW.CAYMANCHEM.COM