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## Recombinant Human Neutrophil Activating Protein-2 (CXCL7)

Alternate names: CXCL7, NAP2

Catalog No.:PA1171XQuantity:10 μgConcentration:1.0 mg/ml

Species: Human
Source: E. coli, E.coli

Format: State: Sterile Filtered White lyophilized (freeze-dried) powder.

Purity: >98% Greater than 98.0% as determined by:

(a) Analysis by RP-HPLC.(b) Anion-exchange FPLC.

(c) Analysis by reducing and non-reducing SDS-PAGE Silver Stained.

Buffer System: Recombinant Neutrophil-activating peptide 2, lyophilized from a

concentrated solution in water containing no additives. **Endotoxin Level:** Less than 0.1 ng/µg (IEU/µg) of NAP-2.

**Dimers:** Less than 1% as determined by silver-stained SDS-PAGE gel analysis.

**Reconstitution:** It is recommended to reconstitute the lyophilized NAP-2 in sterile  $18M\Omega$ -cm H2O not less than  $100\mu g/ml$ , which can then be further diluted to other aqueous solutions.

**Description:** Recombinant Human NAP-2 produced in E.Coli is a non-glycosylated, Polypeptide chain

containing 70 amino acids. Recombinant NAP-2 is purified by proprietary chromatographic

techniques.

AA Sequence:

The sequence of the first five N-terminal amino acids was determined and was

found to be Ala-Glu-Leu-Arg-Cys.

**Biological Activity:** NAP-2 is fully biologically active when compared to standard. The

specific activity as determined by the ability of NAP-2 to chemoattract human neurotrophils

using a concentration of 1-10 ng/ml. Molecular weight: 7609 Dalton.

Molecular weight: 8 kDa

**Add. Information:** Protein quantitation was carried out by two independent methods:

1. UV spectroscopy at 280 nm.

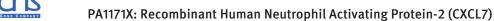
2. Analysis by RP-HPLC, using a standard solution of NAP-2 as a Reference Standard.

Storage: Lyophilized NAP-2 although stable at room temperature for 3 weeks, should be stored

desiccated below -18 C. Upon reconstitution NAP-2 should be stored at 4 C between 2-7 days and for future use below -18 C. For long term storage it is recommended to add a

carrier protein (0.1% HSA or BSA). Please avoid freeze-thaw cycles.

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## **General Readings:**

- 1. Rennen HJ, Frielink C, Brandt E, Zaat SA, Boerman OC, Oyen WJ, et al. Relationship between neutrophil-binding affinity and suitability for infection imaging: comparison of (99m)Tc-labeled NAP-2 (CXCL-7) and 3 C-terminally truncated isoforms. J Nucl Med. 2004 Jul;45(7):1217-23. PubMed PMID: 15235069.
- 2. Malawista SE, Van Damme J, Smallwood JI, de Boisfleury Chevance A. Chemotactic activity of human blood leukocytes in plasma treated with EDTA: chemoattraction of neutrophils about monocytes is mediated by the generation of NAP-2. J Leukoc Biol. 2002 Jul;72(1):175-82. PubMed PMID: 12101278.
- 3. Schwartzkopff F, Brandt E, Petersen F, Flad HD, Bock L, Ludwig A. The CXC chemokine NAP-2 mediates differential heterologous desensitization of neutrophil effector functions elicited by platelet-activating factor. J Interferon Cytokine Res. 2002 Feb;22(2):257-67. PubMed PMID: 11911809.
- 4. Piccardoni P, Evangelista V, Piccoli A, de Gaetano G, Walz A, Cerletti C. Thrombinactivated human platelets release two NAP-2 variants that stimulate polymorphonuclear leukocytes. Thromb Haemost. 1996 Nov;76(5):780-5. PubMed PMID: 8950790.
- 5. Ehlert JE, Petersen F, Kubbutat MH, Gerdes J, Flad HD, Brandt E. Limited and defined truncation at the C terminus enhances receptor binding and degranulation activity of the neutrophil-activating peptide 2 (NAP-2). Comparison of native and recombinant NAP-2 variants. J Biol Chem. 1995 Mar 17;270(11):6338-44. PubMed PMID: 7890771.
- 6. Besemer J. Neutrophil-activating peptides NAP-2 and IL-8 bind to the same sites on neutrophils but interact in different ways. Discrepancies in binding affinities, receptor densities, and biological effects. J Immunol. 1995 Jan 15;154(2):972-4. PubMed PMID: 7814896.

**Pictures:** 

Precursor- Protein structure and amino acid sequence: PA1171XME0607

