# IFN-lambda 2/IL-28A Protein, Human (P.pastoris, His)

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| **Cat. No.:** | HY-P77005 |
| **Synonyms:** | Interferon lambda-2; IFN-lambda-2; IL-28A; IFNL2; IL28A; ZCYTO20 |
| **Species:** | Human |
| **Source:** | P. pastoris |
| **Accession:** | Q8IZJ0 (V26-V200) |
| **Gene ID:** | 282616 |
| **Molecular Weight:** | Approximately 21.1 kDa. |

## PROPERTIES

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| **Appearance** | Lyophilized powder. |
| **Formulation** | Lyophilized from a 0.2 μm filtered solution of PBS, pH 7.4. Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween 80 are added as protectants before lyophilization. |
| **Endotoxin Level** | <1 EU/μg, determined by LAL method. |
| **Reconsititution** | It is not recommended to reconstitute to a concentration less than 100 μg/mL in $ddH_2O$. |
| **Storage & Stability** | Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage. |
| **Shipping** | Room temperature in continental US; may vary elsewhere. |

## DESCRIPTION

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| **Background** | IFN-lambda 2 (IL-28A) is a member of the Type-III interferon family. Human IFN-lambda 2 shares 65.1% common aa identity with mouse. IFN-lambda 2 is produced particularly by dendritic cells (DCs), When following viral or bacterial infection[3]. IFN-lambda 2 mediates effects by a heterodimeric receptor complex comprising IFNλ receptor 1 (IFNLR1) and IL-10 receptor subunit-β (IL-10RB). When binding to the receptor complex, Jak1 and Tyk2 will be activated, and leads to subsequent tyrosine phosphorylation of the IFN-λR1 (intracellular domain, Tyr406 and Tyr343, Tyr517), and activation of STAT1 and STAT2. Activated STAT1 and STAT2 together with IRF-9 (p48) form a trimeric transcription factor complex (ISGF3). The formed ISGF3 complexes then translocate to the nucleus and promotes the production of IFN-stimulated genes (ISGs) such as IRF7, MX1, and OAS1[2].<br>IFN-lambda 2 has antiviral antitumour and immunomodulatory activities[1]. IFN-lambda 2 has been reported to modulate CD11c+ DC cell function and promote Th1 differentiation, thus suppressing allergic airway diseases[4]. |

## REFERENCES

[1]. Lopušná K, et al. Interferons lambda, new cytokines with antiviral activity. Acta Virol. 2013;57(2):171-9.

[2]. Donnelly RP, et al. Interferon-lambda: a new addition to an old family. J Interferon Cytokine Res. 2010 Aug;30(8):555-64.

[3]. Witte K, et al. IL-28A, IL-28B, and IL-29: promising cytokines with type I interferon-like properties. Cytokine Growth Factor Rev. 2010 Aug;21(4):237-51.

[4]. Yan B, et al. Interleukin-28B dampens airway inflammation through up-regulation of natural killer cell-derived IFN-γ. Sci Rep. 2017 Jun 15;7(1):3556.

[5]. Luo Q, et al. Interleukin 28 is a potential therapeutic target for sepsis. Clin Immunol. 2019 Aug;205:29-34.

[6]. Liangzi Li, et al. Interleukin-28A maintains the intestinal epithelial barrier function through regulation of claudin-1.



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