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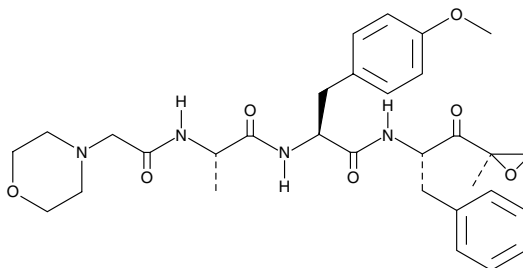
Product Information



ONX 0914

Item No. 16271

CAS Registry No.: 960374-59-8
Formal Name: N-[2-(4-morpholinyl)acetyl]-L-alanyl-O-methyl-N-[(1S)-2-[(2R)-2-methyl-2-oxiranyl]-2-oxo-1-(phenylmethyl)ethyl]-L-tyrosinamide
Synonym: PR-957
MF: C₃₁H₄₀N₄O₇
FW: 580.7
Purity: ≥98%
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid



Laboratory Procedures

For long term storage, we suggest that ONX 0914 be stored as supplied at -20°C. It should be stable for at least two years.

ONX 0914 is supplied as a crystalline solid. A stock solution may be made by dissolving the ONX 0914 in the solvent of choice. ONX 0914 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of ONX 0914 in ethanol is approximately 15 mg/ml and approximately 2 mg/ml in DMSO and DMF.

ONX 0914 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, ONX 0914 should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. ONX 0914 has a solubility of approximately 0.5 mg/ml in a 1:1 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

The immunoproteasome is a specialized, inducible proteasome that generates peptides presented on major histocompatibility complex (MHC) class I molecules to cytotoxic T cells. Stimulation of cells with inflammatory cytokines such as IFN-γ leads to the replacement of constitutive catalytic proteasome β subunits with inducible β subunits (β1i (LMP2), β2i (MECL1), and β5i (LMP7)), which are required for the production of certain MHC class I-restricted T cell epitopes. ONX 0914 is a selective inhibitor of the β5i (LMP7) subunit of the immunoproteasome (IC₅₀s = 65 and 73 nM for mouse and human, respectively) and demonstrates significantly weaker activity at the β5 subunit of the constitutive proteasome (IC₅₀s = 0.92 and 1.04 μM for mouse and human, respectively).^{1,2} It can block the production of IL-23 by activated monocytes and the production of IFN-γ and IL-2 by T cells.¹ ONX 0914 can also inhibit IL-17-producing T cells under T_H17-polarizing conditions *in vitro* and reduce T_H1 and T_H17 cell differentiation *in vivo*.³ This compound has been shown to attenuate disease progression in several experimental models of autoimmune disorders as well as in some hematologic malignancies.^{1,4-6}

References

1. Muchamuel, T., Basler, M., Aujay, M.A., *et al. Nat. Med.* **15**(7), 781-787 (2009).
2. Huber, E.M., Basler, M., Schwab, R., *et al. Cell* **148**(4), 727-738 (2012).
3. Kalim, K.W., Basler, M., Kirk, C.J., *et al. J. Immunol.* **189**(8), 4182-4193 (2012).
4. Basler, M., Daiee, M., Moll, C., *et al. J. Immunol.* **185**(1), 634-641 (2010).
5. Niewerth, D., Franke, N.E., Jansen, G., *et al. Haematologica* **98**(12), 1896-1904 (2013).
6. Niewerth, D., Kaspers, G.J., Assaraf, Y.G., *et al. J. Hematol. Oncol.* **7**(1), 1-15 (2014).

Related Products

For a list of related products please visit: www.caymanchem.com/catalog/16271

WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY: NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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