Product Datasheet

ODN1018

Catalog No. **BP-04322** · CAS **937402-51-2** · Form **free base** · Physical state **solid** · Version **1.0** · Revision **2026-11-16**

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Target	Research area
Toll-like Receptor (TLR)	**Inflammation/Immunology**

Molecular formula	**—**
Molecular weight	**0.0000**

STRUCTURE

DESCRIPTION

ODN 1018, a Th1-biasing synthetic toll-like receptor 9 (TLR9) agonist, is a short, synthetic, unmethylated CpG oligodeoxynucleotide (CpG ODN) with immunostimulatory activity. ODN 1018 signals via Toll-like receptor 9 (TLR9) to induce immunoglobulin production by B cells and interferon (IFN-α), IFN-β, interleukin-12 (IL-12), and tumor necrosis factor-α (TNF-α) by plasmacytoid dendritic cells (pDC). ISS ODN 1018 promotes antigen presentation and co-stimulatory molecular expression. It can be used as a vaccine adjuvant.

BIOLOGICAL ACTIVITY

ODN 1018 (0.7 μM) stimulates proliferation and IL-6 production in purified human B cells, and this stimulation is inhibited by IRS at 0.35-0.7 μM.
ODN 1018 (0.7 μM; 48 h) activates mouse splenocytes to produce IL-6 via TLR9, and this activation is dose-dependently inhibited by IRS 869 at 0.0875-0.7 μM

SOLUBILITY

Soluble in H2O

In vitro	H2O : ≥ 100 mg/mL

REFERENCES

[1]. Wang X, et al. STING agonist-based ER-targeting molecules boost antigen cross-presentation. Nature. 2025;641(8061):202-210.

[2]. Campbell JD, et al. A limited CpG-containing oligodeoxynucleotide therapy regimen induces sustained suppression of allergic airway inflammation in mice. Thorax. 2014;69(6):565-573.

[3]. Barrat FJ, et al. Development of TLR inhibitors for the treatment of autoimmune diseases. Immunol Rev. 2008;223:271-283.

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