ODN 2088

Cat. No.:	HY-150738
CAS No.:	1146541-45-8
Molecular Weight:	4878
Target:	Toll-like Receptor (TLR)
Pathway:	Immunology/Inflammation
Storage:	-20°C, sealed storage, away from moisture * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)

DNA, d(P-thio)(T-C-C-T-G-G-C-G-G-G-G-A-A-G-T)

BIOLOGICAL ACTIVITY

Description

ODN 2088 is a potent TLR3, TLR7 and TLR9 inhibitor. ODN 2088 shows no cytotoxic. ODN 2088 inhibits the release of IFN-α and IL-6[1][2][3].

In Vitro

ODN 2088 (0.01, 0.1, 1, 10 μM; 48 h) shows no cytotoxic for for human PBMCs[1].
ODN 2088 (0.01, 0.1, 1, 10 μM; 24 h) inhibits the release of IFN-α in CpG-ODN 2216 (3 μM) and TLR7-ligand RNA-ORN 22075 (5 μM) stimulated human PBMCs[1].
ODN 2088 (0.01, 0.1, 1, 10 μM; 48 h) hardly inhibits the IL-6 release stimulated with CpG-ODN 2006 (100 nM) but inhibits the IL-6 release stimulated with imiquimod (5 μg/ml) in human PBMCs[1].
ODN 2088 (0.1, 1, 10 μM; 24 h) hardly inhibits IL-6 release by B-cells stimulated with CpG-DNA 2006 (100 nM) but inhibits the IL-6 release by imiquimod (5 μg/ml) stimulated human B-cells[1].
ODN 2088 (1, 10 μM; 48 h) increases the expression of CD86 and HLA-DR in the absence of CpG-ODN 2006 or imiquimod in $CD20^+$ B-cells[1].
ODN 2088 presumably impairs TLR9-induced signaling induces by CpG-ODNs by competitive binding to the C-terminal fragment of TLR9[1].
ODN 2088 (0.001, 0.01, 0.1, 1, 10 μM; 24 h) inhibits the TNF-α secretion in a dose-dependent manner in CpG-ODN 1826 (100 nM) stimulated BMDMs and shows weekly inhibits when stimulated by the TLR7-agonist imiquimod[3].
ODN 2088 (10 μM) stimulates B cells to proliferate[3].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Cytotoxicity Assay[1]

Cell Line:	Human PBMCs
Concentration:	0.01, 0.1, 1, 10 μM
Incubation Time:	48 h
Result:	Showed no cytotoxic for for human PBMCs.

REFERENCES

[1]. Römmler F, et al. Guanine-modified inhibitory oligonucleotides efficiently impair TLR7- and TLR9-mediated immune responses of human immune cells. PLoS One. 2015 Feb 19;10(2):e0116703.

[2]. Duramad O, et al. Inhibitors of TLR-9 act on multiple cell subsets in mouse and man in vitro and prevent death in vivo from systemic inflammation. J Immunol. 2005 May 1;174(9):5193-200.

[3]. Römmler F, et al. Guanine modification of inhibitory oligonucleotides potentiates their suppressive function. J Immunol. 2013 Sep 15;191(6):3240-53.

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