

## Anifrolumab

Cat. No.:	HY-P99168
CAS No.:	1326232-46-5
Target:	Others
Pathway:	Others
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.

### BIOLOGICAL ACTIVITY

<b>Description</b>	Anifrolumab is a type I interferon (IFN) receptor antagonist, a human monoclonal antibody. Anifrolumab blocks the activity of type I interferon. Anifrolumab can be used in systemic lupus erythematosus (SLE) research <sup>[1][2]</sup> .																
<b>In Vitro</b>	<p>Anifrolumab (67.7 nM; 20 min) induces sustained reduction of surface IFNAR1 and abrogates STAT1 phosphorylation<sup>[2]</sup>. Anifrolumab (1 and 10 µg/mL; 6 or 7 d) suppresses differentiation of B cells into plasma cells<sup>[2]</sup>. Anifrolumab inhibits type I IFN-induced ISRE signaling, with IC<sub>50</sub>s ranging from 0.004 to 0.3 nM for the IFN-α subtypes, and 0.03 nM and 0.07 nM for IFN-β and IFN-ω, respectively<sup>[2]</sup>. Anifrolumab (67.7 nM) dose-dependently inhibits IFN-α production from pDCs in response to CpG-A or DNA-IC stimulation, inhibiting 87-95% of IFN-α production<sup>[2]</sup>. MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p> <p>Western Blot Analysis<sup>[2]</sup></p> <table border="1"> <tr> <td>Cell Line:</td> <td>Peripheral blood mononuclear cells (PBMCs)</td> </tr> <tr> <td>Concentration:</td> <td>67.7 nM</td> </tr> <tr> <td>Incubation Time:</td> <td>20 min</td> </tr> <tr> <td>Result:</td> <td>Abrogated IFN-α2-dependent and pDC supernatant-dependent STAT1 phosphorylation.</td> </tr> </table> <p>Cell Differentiation Assay<sup>[2]</sup></p> <table border="1"> <tr> <td>Cell Line:</td> <td>Plasmacytoid dendritic cell (pDC)</td> </tr> <tr> <td>Concentration:</td> <td>1 and 10 µg/mL</td> </tr> <tr> <td>Incubation Time:</td> <td>6 or 7 days</td> </tr> <tr> <td>Result:</td> <td>Inhibited pDC-mediated plasma cell differentiation in a dose-dependent manner, with a mean 76% reduction in plasma cell number relative to control antibody.</td> </tr> </table>	Cell Line:	Peripheral blood mononuclear cells (PBMCs)	Concentration:	67.7 nM	Incubation Time:	20 min	Result:	Abrogated IFN-α2-dependent and pDC supernatant-dependent STAT1 phosphorylation.	Cell Line:	Plasmacytoid dendritic cell (pDC)	Concentration:	1 and 10 µg/mL	Incubation Time:	6 or 7 days	Result:	Inhibited pDC-mediated plasma cell differentiation in a dose-dependent manner, with a mean 76% reduction in plasma cell number relative to control antibody.
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### REFERENCES

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[1]. Furie R, et al. Anifrolumab, an Anti-Interferon- $\alpha$  Receptor Monoclonal Antibody, in Moderate-to-Severe Systemic Lupus Erythematosus. *Arthritis Rheumatol.* 2017 Feb;69(2):376-386.

[2]. Riggs JM, et al. Characterisation of anifrolumab, a fully human anti-interferon receptor antagonist antibody for the treatment of systemic lupus erythematosus. *Lupus Sci Med.* 2018 Apr 5;5(1):e000261.

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**Caution: Product has not been fully validated for medical applications. For research use only.**

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