

Adalimumab

Cat. No.:	HY-P9908
CAS No.:	331731-18-1
Molecular Weight:	145425.42
Target:	TNF Receptor; Bacterial
Pathway:	Apoptosis; Anti-infection
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.

BIOLOGICAL ACTIVITY

Description	Adalimumab is a human monoclonal IgG1 antibody targeting tumour necrosis factor α (TNF- α).
IC ₅₀ & Target	TNF- α ^[1]
In Vitro	Treatment of HUVECs with Adalimumab for up to 12 hours shows no adverse effect on their cell viability, even with a 10-fold higher concentration of Adalimumab than used in this study ^[2] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	The elimination half-life ($t_{1/2}$) of Adalimumab is long (~20 days) ^[1] . The enriched fluorescent-labelled adalimumab is observed mainly in major Oil red O-positive lesions documenting good tissue penetration of the drug into the atherosclerotic plaque, without background fluorescence of the vessel wall after vehicle control injection into hypercholesterolemic Ldlr ^{-/-} mice ^[2] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.

PROTOCOL

Cell Assay ^[2]	1×10 ⁴ HUVECs are plated per well of 96 well plate in EGM. After reaching sub-confluency cells are cultured in different concentration of Adalimumab (0.01-10 μ g/mL), IgG isotype control (10 μ g/mL) and 0.1% Triton-X as positive control in 5% CO ₂ at 37°C. After 12 hours, 10% Alamar blue is added to each well and kept in incubator for another 6 hours. Absorbance of oxidized alamar blue is measured at 600 nm on Infinite M200 pro plate reader. All measurements are performed in triplicate ^[2] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.
Animal Administration ^[2]	Mice ^[2] In order to analyze the vascular distribution of Adalimumab, the substance is labelled using the DyLight 549 Microscale Antibody Labeling Kit. Briefly, one vial of DyLight 549 Reagent is dissolved in 1 mg Adalimumab solution (in PBS) and purified with a resin spin column to remove excess fluor. Hypercholesterolemic Ldlr ^{-/-} mice are injected with fluorophore-labelled Adalimumab (8.0 mg/kg in 200 μ L PBS i.p.) for two consecutive days and sacrificed 12 hours after last injection. Vehicle injection (200 μ L PBS) is used as control. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Anal Chim Acta. 2021, 338306.
- Xenotransplantation. 2019 Nov;26(6):e12536.

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REFERENCES

- [1]. Ternant D, et al. Pharmacokinetics and concentration-effect relationship of adalimumab in rheumatoid arthritis. Br J Clin Pharmacol. 2015 Feb;79(2):286-97.
- [2]. Oberoi R, et al. Targeting Tumor Necrosis Factor- α with Adalimumab: Effects on Endothelial Activation and Monocyte Adhesion. PLoS One. 2016 Jul 28;11(7):e0160145.
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Caution: Product has not been fully validated for medical applications. For research use only.

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