Abstract AB0049 – Figure 1. Serum levels of caspase-3, caspase-9, caspase-14 and pannexin-1 in patients with behçet's disease and healthy controls

Conclusions: Serum caspase-3, caspase-9 and caspase-14 levels were not statistically significant different between BD and HC groups. Serum pannexin-1 levels were statistically significant lower in the BD group.

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AB0050

BIOMAP® PHENOTYPIC PROFILING OF TWO BATCHES OF ORIGINATOR ETANERCEPT REVEALS EQUIVALENT ACTIVITY SIGNATURES CONSISTENT WITH CONSERVED BIOLOGICAL ACTIVITY

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Background: The BioMAP® platform is a complex human primary cell-based system for modelling tissue and disease states that is used to characterise drug activities based on the analyses of 148 clinically relevant biomarker readouts.

Objectives: To confirm that the BioMAP phenotypic signatures of two originator etanercept (ETN) samples remained comparable over time.

Methods: Two different ETN samples (ETN_1 and ETN_2) were independently profiled with a 5 year interval across a panel of 12 disease-relevant systems (3C and 4 hour [endothelial inflammation]; LPS [monocyte activation]; SAg [T cell activation]; BT [B cell activation]; BF4T and BE3C [epithelial inflammation]; CASM3C [vascular inflammation]; HDF3CGF, KF3CT, and MyoF [tissue remodelling, fibrosis]; Mphg [macrophage activation]). BioMAP systems consist of human primary cells or cocultures from healthy donors cultured in the presence of cytokines and growth factors. Protein levels, measured using immune-based methods or functional assays for cell viability and proliferation, were used to generate a BioMAP activity profile for each sample. ETN activities were annotated if they differed from the vehicle control and had an effect size >20%. The profiles of the 2 samples were compared using Pearson's correlation.

Results: BioMAP phenotypic profiling of ETN_1 versus ETN_2 samples at 10 µg/mL revealed similar signatures across 148 biomarkers in 12 disease-relevant systems. The Pearson's correlation coefficient was 0.781, which is above the determined threshold for mechanistic similarity ($r \geq 0.7$). Key efficacy-related anti-inflammatory and immunomodulatory activities were commonly inhibited in multiple systems including tumour necrosis factor alpha (LPS and BT), interleukin (IL)-2 (BT), vascular cell adhesion molecule 1 (MyoF and Mphg), IL-8 (SAg and MyoF), and E-Selectin (SAg and Mphg). The profiles of ETN samples at 1 µg/mL in the SAg system modelling T cell activation responses also revealed statistically significant similarity in signatures ($p < 0.01$) in both magnitude and direction across all biomarker activities (figure 1).

Abstract AB0050 – Figure 1. SAg system profile of ETN_1 and ETN_2 samples at 1 µg/mL.

Conclusions: The BioMAP phenotypic signatures of the ETN_1 and ETN_2 samples profiled in independent experiments using different primary cell pools remained comparable, which was consistent with conserved ETN mechanisms of action. The BioMAP platform represents a useful orthogonal approach for assessing ETN activity.

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AB0051

THE INFLUENCE OF ANTI-INFLAMMATORY LIPOXIN A4 ON GENERATION OF CYTOKINES BY PBMCs OF PATIENTS WITH PSORIATIC ARTHRITIS

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Background: Psoriatic arthritis (PsA) is affecting up to 40% of the patients with psoriasis. The pathogenesis of PsA is not completely understood. One of the hypothesis suggest that repeated micro injuries and trauma and lack of proper inhibition of inflammation lead to chronic inflammation spreading to surrounding tissue and other joints and ligaments. One of the mediators which lead to inhibition of inflammation in healthy conditions are derivatives of arachidonic acid – lipoxins.

Objectives: The aim of the study was to assess if the influence of lipoxin A4 on inhibition of synthesis of pro-inflammatory cytokines by peripheral blood mononuclear cells (PBMCs) of patients with psoriatic arthritis.

Methods: The study group consisted of 10 patients with psoriatic arthritis and 5 healthy controls. The peripheral blood mononuclear cells from patients with PsA and healthy controls were isolated and were stimulated with lipopolysaccharide (LPS) with or without 200 nM of lipoxin A4 for 24 hours. The supernatants were collected after 24 hour stimulation. The levels of IL-1b, IFN-gamma, TNF alpha, MCP-1, IL-6, IL-8 and IL-33 were assessed by cytometric bead array system.

Results: Incubation of cells with LPS, increased production of all cytokines assessed either in patients with psoriatic arthritis or in healthy controls. In PBMCs from healthy controls incubation of cells with lipoxine A4 decrease production of proinflammatory cytokines (IL-1b, MCP-1, IL-8, IL-6, IL-33 and TNF-alpha; $p < 0.05$). However in patients with psoriatic arthritis addition of lipoxine A4 did not inhibit LPS – induced proinflammatory cytokines release (IL-1b, MCP-1, IL-6, IL-8, IL-33 and TNF-alpha, $p < 0.05$).

Conclusions: Our study demonstrated that modulation of Inflammation by lipid mediators in patients with psoriatic arthritis is dysregulated.

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