

Representative Publications Using **AimPlex**[®] Bead-Based Multiplex Immunoassays

1. Schmidt J et al. Detection of Inflammatory and Homeostasis Biomarkers after Selective Removal of Carious Dentin—An In Vivo Feasibility Study. *Journal of Clinical Medicine* 2021; 10 (5), 1003

<https://doi.org/10.3390/jcm10051003>

Analytes: Human MMP-7, MMP-8, and MMP-9

Sample type: rinsing liquid from dental cavities.

2. Ishikawa-Nishimura M et al. A Case of Pruritic Urticarial Papules and Plaques of Pregnancy: Pathophysiology and Serum Cytokine Profile. *Case Rep Dermatol* 2021;13:18–22

DOI: 10.1159/000511494

Analytes: Human Th1/Th2/Th17 18-plex (C191118, GM-CSF, IFN γ , IL-1 β , IL-2, IL-4, IL-5, IL-6, IL-8, IL-9, IL-10, IL-12p70, IL-17A, IL-17F, IL-22, IL-33, TNF α , TNF β , TSLP)

Sample type: Human serum.

3. Kondo M et al. Transition of Serum Cytokine Concentration in *Rickettsia japonica* Infection. *Infect. Dis. Rep.* 2020, 12, 127–131

DOI: 10.3390/idr12030023

Analytes: Human IFN- γ , IL-12p70, TNF- α , IL-2, IL-8, IL-4, IL-5, IL-9, IL-33, IL-6, IL-17A, IL-17F, and IL-22.

Sample type: Human serum.

4. Wang D et al. Detecting 24 Kinds of Cytokines Via Flow Cytometry Aimplex Kit Is an Effective Way to Monitor CRS after CAR-T Cells Infusion. *Blood* (2020) 136 (Supplement 1): 50–51.

DOI: 10.1182/blood-2020-138404

Analytes: Panel 1: Human IFN- γ , IL-1 β , IL-2, IL-4, IL-5, IL-6, IL-8, IL-10, IL-12p70, IL-17A, IL-17F, IL-22, TNF- α , and TNF- β . Panel 2: sCD25, GM-CSF, IL-15, MCP-1, GranzymeB, Reg3A, ST2, TNFRSF1A, Elafin, and MIP-1 alpha.

Sample type: Human serum.

5. Ozsurekci Y et al. Predictive value of cytokine/chemokine responses for the disease severity and management in children and adult cases with COVID-19. *J Med Virol.* 2020;1–10.

DOI: 10.1002/jmv.26683

Analytes: Human Inflammation 18-Plex (C192218, IFN γ , IL-1 α , IL-1 β , IL-4, IL-6, IL-8, IL-10, IL-12p70, IL-13, IL-17A, IL-27, IL-31, IL-33, IP-10, MCP-1, MIP-1 α , MIP-1 β , and TNF α) and Human Inflammatory Chemokine 7-Plex Panel 2 (C193372, IP-10, I-TAC, MIP-1 α , MIP-1 β , 6CKine, MDC, MIP-3 β).

Sample type: Human serum.

6. Chen X et al. Correlation study between blood cytokines and lymphocytes in early postoperative critical patients with compromised immune function. *Medicine* (2020) 99:42

PMID: 33080681

DOI: 10.1097/MD.00000000000022459

Analytes: Human IL-2, IL-4, IL-6, IL-10, IL-17A, IFN- γ , TNF- α , TNF- β , G-CSF, and GM-CSF.

Sample type: Human plasma.

7. Berben L et al. Age-related remodeling of the blood immunological portrait and the local tumor immune response in patients with luminal breast cancer. *Clinical & Translational Immunology* 2020; 9: e1184

DOI: 10.1002/cti2.1184

Analytes: Human Inflammation 11-Plex (C192211, IFN γ , IL-1 α , IL-1 β , IL-6, IL-8, IL-10, IL-12p70, IL-27, IP-10, MCP-1, TNF α).

Sample type: Human plasma.

8. Aloufi N [The role of sCD127 in IL-7-Mediated T cell homeostasis *in vivo*](#). Thesis submitted to the University of Ottawa in partial fulfillment of the requirements for the master's degree in Microbiology and Immunology

Analytes: Mouse IL-7 and Mouse IL-7R α /sCD127 single-Plex kits.

Sample type: Mouse serum.

9. Meng F et al. Human umbilical cord-derived mesenchymal stem cell therapy in patients with COVID-19: a phase 1 clinical trial. *Signal Transduct Target Ther.* 2020 Aug 27;5(1):172

PMID: 32855385

DOI: 10.1038/s41392-020-00286-5

Analytes: Human IL-6, IFN- γ , TNF- α , MCP-1, IP-10, IL-22, IL-1RA, IL-18, IL-8, and MIP-1 α .

Sample type: Human plasma.

10. Umaoka A et al. Skin Inflammation and Testicular Function: Dermatitis Causes Male Infertility via Skin-Derived Cytokines. *Biomedicines*, 2020 Aug 20;8(9):E293

PMID: 32825298

DOI: 10.3390/biomedicines8090293

Analytes: Mouse TNF- α , IL-1 β , IL-12p70, MCP-1, IFN- γ , IL-6, KC, IL-10, IL-1 α , IP-10, and IL-23.
Sample type: Mouse epididymal suspension.

11. Zhang J et al. Single-cell landscape of immunological responses in patients with COVID-19. *Nature Immunology* 21, 1107–1118 (2020)

DOI: <https://doi.org/10.1038/s41590-020-0762-x>

Analytes: Human IFN- γ , IL-6, IL-18, MCP-1, MIP-1 α , and IP-10.
Sample type: Human plasma.

12. Bathini P et al. Systemic inflammation causes microglial dysfunction with a mixed AD-like pathology. <https://www.biorxiv.org/content/10.1101/2020.07.27.223198v1>

DOI: <https://doi.org/10.1101/2020.07.27.223198>

Analytes: Mouse IL-6, IL-10, MCP-1, and TNF-alpha.
Sample type: Mouse plasma.

13. Tan L et al. Elevated Interleukin-6 Levels within 72 Hours Post Admission Are Associated with Disease Progression in Nonseptic Critically Ill Children. *BioMed Research International* Volume 2020, Article ID 4596851

DOI: <https://doi.org/10.1155/2020/4596851>

Analytes: Human IL-2, IL-4, IL-6, IL-10, IL-17A, G-CSF, GM-CSF, TNF-alpha, TNFbeta, and IFNgamma.
Sample type: Human plasma.

14. Hsiao T et al. Serum Neurofilament Light Polypeptide is a Biomarker for Inflammation in Cerebrospinal Fluid Caused by Fine Particulate Matter. *Aerosol and Air Quality Research*, 20: 1665–1674, 2020

DOI: <https://doi.org/10.4209/aaqr.2019.08.0376>

Analytes: Rat IL-4, IL-6, IL-10, and TNF-alpha.
Sample type: Rat serum.

15. Delli FS et al. Total IgE, eosinophils, and interleukins 16, 17A, and 23 correlations in severe bullous pemphigoid and treatment implications. *Dermatol Ther* 2020 Jul 4; e13958

PMID: 32621642

DOI: <https://doi.org/10.1111/dth.13958>

Analytes: Human IL-16, IL-17A, and IL-23p19.

Sample type: Human serum and Bullous pemphigoid (BP) skin blisters fluid.

16. Song J et al. Immunological and inflammatory profiles in mild and severe cases of COVID-19. *Nat Commun* 11, 3410 (2020)

DOI: <https://doi.org/10.1038/s41467-020-17240-2>

Analytes: Human IL-1beta, IL-2, IL-4, IL-5, IL-6, IL-8, IL-10, IL-12p70, IL-17A, IL-17F, IL-22, TNF-alpha, TNFbeta, IFNgamma, IL-1RA, IL-18, G-CSF, RANTES, MCP-1, IP-10, and MIP-1alpha.

Sample type: Human plasma.

17. Wang Z et al. Axl deficiency promotes the neuroinvasion of Japanese encephalitis virus by enhancing IL-1 α production from pyroptotic macrophages. *J. Virol.* Posted Online 1 July 2020.

PMID: 32611752

DOI: [10.1128/JVI.00602-20](https://doi.org/10.1128/JVI.00602-20)

Analytes: Mouse IL-1alpha, IL-1beta, IL-2, IL-4, IL-6, IL-10, TNF-alpha, IFNgamma, CCL2, and CCL5.

Sample type: Mouse serum.

18. Shabrish S et al. Impaired NK cell activation during acute dengue virus infection: A contributing factor to disease severity. *Heliyon* 6 (2020) e04320.

DOI: <https://doi.org/10.1016/j.heliyon.2020.e04320>

Analytes: Human IL-10, IL-15, and IFNgamma.

Sample type: Human plasma.

19. Wang Y et al. Pilot study of cytokine changes evaluation after fecal microbiota transplantation in patients with ulcerative colitis. *International Immunopharmacology* 85 (2020) 106661.

PMID: 32563025

DOI: [10.1016/j.intimp.2020.106661](https://doi.org/10.1016/j.intimp.2020.106661)

Analytes: a total of 41 Human cytokines including IL-1alpha, IL-1Ra, IL-12/IL-23p40, IL-12p70, IL-17C, IL-17F, TNFalpha, IL-1beta, IFNgamma, IL-23, IL-2, IL-6, IL-7, IL-15, IL-17A, IL-13, IL-4, IL-10, IFN-alpha, IP-10, MCP-1, MEC, MIP-1alpha, ENA-78, IL-8, RANTES, IL-5, G-CSF, FGF2, sIL-2R, IL-16, IL-22, EGF, CD40, 6CKine, BCA-1, TECK, E-selectin, P-selectin, ICAM-1, and VCAM-1.

Sample type: Human serum.

20. Zhao N et al. Changes in Treg numbers and activity in papillary thyroid carcinoma with and without Hashimoto's thyroiditis. *Journal of International Medical Research*. 2020 48(4) 1-8.

DOI: 10.1177/0300060520919222

Analytes: Human IL-10, and IL-35.
Sample type: Human serum.

21. Jin JH et al. Virtual memory CD8+ T cells restrain the viral reservoir in HIV-1-infected patients with antiretroviral therapy through derepressing KIR-mediated inhibition. *Cell Mol Immunol*. 2020 Mar 24.

PMID: 32210395

DOI: 10.1038/s41423-020-0408-9

Analytes: Human IL-1beta, IP-10, I-TAC, MIG, IL-15, MCP-1, sCD14, IL-6, IFN-alpha2, MIP-1beta, G-CSF, and sCD163.
Sample type: Human serum.

22. Du X et al. Hypoxia-Inducible Factor 1 α and 2 α Have Beneficial Effects in Remote Ischemic Preconditioning Against Stroke by Modulating Inflammatory Responses in Aged Rats. *Front. Aging Neurosci*. 12:54. (2020).

doi: 10.3389/fnagi.2020.00054

Analytes: Rat IL-1beta, IL-6, TNF-alpha, IFN-gamma, IL-4 and IL-10.
Sample type: Rat peripheral blood, penumbra, and brain tissue lysate samples.

23. Bai C et al. Effect of High Calorie Diet on Intestinal Flora in LPS-Induced Pneumonia Rats. *Sci Rep* 10, 1701 (2020).

DOI: 10.1038/s41598-020-58632-0

Analytes: Rat IL-6, IL-12p40, KC, and TNFalpha (Figure 5E).
Sample type: Rat tissue lysate samples.

24. Batsos G et al. Vitreous levels of Lipocalin-2 on patients with primary rhegmatogenous retinal detachment. *PLoS One*. 2019; 14(12): e0227266.

PMID: 31891637

DOI: 10.1371/journal.pone.0227266

Analytes: Human Lipocalin2 (LCN2/NGAL).
Sample type: undiluted vitreous core sample.

25. Liu C et al. Increased proportion of functional subpopulations in circulating regulatory T cells in patients with chronic hepatitis B. *Hepatol Res*. 2019 Dec 15

DOI: 10.1111/hepr.13472

Analytes: Human IL-2, IL-4, IL-6, IL-10, TNFalpha, and IFNgamma.
Sample type: Cell culture supernatant.

26. Bathini P et al. Classifying dementia progression using microbial profiling of saliva. *medRxiv preprint first posted online Aug. 29, 2019*.

DOI: <https://doi.org/10.1101/19004820>

Analytes: Human Inflammation 16-Plex (IFNgamma, IL-1alpha, IL-1beta, IL-6, IL-8, IL-10, IL-12p70, IL-13, IL-17A, IL-27, IL-31, IL-33, IP-10, MCP-1, MIP-1alpha, and TNFalpha).
Sample type: Human saliva supernatant.

27. Higuchi Y et al. Rice Endosperm Protein Administration to Juvenile Mice Regulates Gut Microbiota and Suppresses the Development of High-Fat Diet-Induced Obesity and Related Disorders in Adulthood. *Nutrients* 2019, 11, 2919.

DOI: 10.3390/nu11122919

Analytes: Mouse TNF- α , IL-1 β , IL-6, and MCP-1.
Sample type: Mouse serum and tissue (kidney and liver) lysate

28. Ma T et al. Targeted Migration of Human Adipose-Derived Stem Cells to Secondary Lymphoid Organs Enhances Their Immunomodulatory Effect and Prolongs the Survival of Allografted Vascularized Composites. *STEM CELLS* 2019;37:1581–1594.

PMID: 31414513

DOI: 10.1002/stem.3078

Analytes: Rat IL-2, IL-4, IL-6, IL-10, IL-17, and INF- γ .
Sample type: Rat plasma

29. Diao W et al. Disruption of histidine and energy homeostasis in chronic obstructive pulmonary disease. *International Journal of Chronic Obstructive Pulmonary Disease* 2019;14 2015–2025.

DOI <https://doi.org/10.2147/COPD.S210598>

Analytes: Human TNF- α , and IL-6.

Sample type: Human serum

30. Wang H et al. CD137 ligand feedback upregulates PD-L1 expression on lung cancer via T cell production of IFN- γ . *Thoracic Cancer*. 2019 Oct 17

PMID: 31625289

DOI: 10.1111/1759-7714.13207

Analytes: Human IFN- γ

Sample type: Cell culture supernatant

31. Feng JC et al. Intra-Arterial Injection of Human Adipose-Derived Stem Cells Improves Viability of the Random Component of Axial Skin Flaps in Nude Mice. *Journal of Plastic, Reconstructive & Aesthetic Surgery*. 2019

DOI: <https://doi.org/10.1016/j.bjps.2019.10.001>

Analytes: Mouse TNF- α , IFN- γ , IL-6, and VEGF.

Sample type: Mouse tissue lysate samples

32. Bélanger J et al. Association of Platelet Activity with Circulating Levels of Brain-Derived Neurotrophic Factor (BDNF) and Cognitive Function: A Cross-Sectional Study. *Canadian Journal of Cardiology*. 2019; 35: S122

DOI: <https://doi.org/10.1016/j.cjca.2019.07.527>

Analytes: Human SDF-1, PDGF, VEGF-A, MIP-1 α , RANTES, TARC, ENA-78, VEGF-C, IL-1 α , IL-1 β , IL-8, IL-33, MCP-1, ANGPT-1, Endostatine, PF4, IL-27, and TNF α .

Sample type: Human blood platelets.

33. Fleury S et al. Large-Scale Assessment of Platelet Differential Secretion. *Canadian Journal of Cardiology*. 2019; 35: S127

DOI: <https://doi.org/10.1016/j.cjca.2019.07.536>

Analytes: Human BDNF, and P-selectin.

Sample type: Human plasma

34. Khadilkar PV et al. Fibrotic Cytokine Interplay in Evaluation of Disease Activity in Treatment Naïve Systemic Sclerosis Patients from Western India. *Journal of The Association of Physicians of India*. 2019; 67: 26-30

http://www.japi.org/august_2019/04_oa_fibrotic_cytokine_interplay.pdf

Analytes: Human IL-1 β , and IL-4.

Sample type: Human serum

35. Zhu SR et al. Level of Regulatory B Cells in Patients with Immune Thrombocytopenia and Its Clinical Significance. *Zhongguo Shi Yan Xue Ye Xue Za Zhi*. 2019;27(1):175-179. (Article in Chinese)

PMID: 30738466

DOI: 10.7534/j.issn.1009-2137.2019.01.028

Analytes: Human IL-10, TGF- β 1, CD40, and CD40L.

Sample type: Human serum

36. Bai C et al. *Yinlai* decoction alleviates lipopolysaccharide-induced pneumonia by changing the immune status of juvenile rates: A study based on network pharmacology. *J Traditional Chinese Medical Sciences*, 2019; 6(1): 44-58.

DOI:10.1016/j.jtcms.2019.01.006

Analytes: Rat IL-6, TNF- α , IL-12p40, IL-8.

Sample type: Rat Serum

37. Dring KJ et al. Multi-Stage Fitness Test Performance, VO₂ Peak and Adiposity: Effect on Risk Factors for Cardio-Metabolic Disease in Adolescents. *Front. Physiol*, 2019; 10:629.

PMID: 31231231

PMCID: PMC6558424

DOI: 10.3389/fphys.2019.00629

Analytes: Human IL-1 β , IL-6, TNF- α , IL-10, CRP.

Sample type: Human plasma

38. Xu H et al. Extreme Levels of Air Pollution Associated with Changes in Biomarkers of Atherosclerotic Plaque Vulnerability and Thrombogenicity in Healthy Adults. *Circ Research*, 2019; 124 (5): e30-343.

PMID: 30661461

DOI: 10.1161/circresaha.118.313948

Analytes: Human MMP-1, MMP-2, MMP-3, MMP-7, MMP-8, MMP-9, TIMP-1, TIMP-2, sCD40L, sCD62P, sRAGE, IL-1 β , CRP, MIP-1 α , MIP-1 β , IGF-1, IGFBP-1 and IGFBP-3.

Sample type: Human serum.

39. Shabrish S et al. Natural Killer Cell Degranulation Defect: A Cause for Impaired NK-Cell Cytotoxicity and Hyperinflammation in Fanconi Anemia Patients. *Front. Immunol.* 2019; 10:490

PMID: 30949167

DOI: 10.3389/fimmu.2019.00490

Analytes: Human IL-2, IL-4, IL-6, IL-7, IL-10, IL-15, IL12p40, IFN- γ , TNF- α , GM-CSF, MIP-1 α , MIP-1 β , MCP-1, and IP-10/CXCL10

Sample type: Human serum

40. Domvri K et al. Th2/Th17 cytokine profile in phenotyped Greek asthmatics and relationship to biomarkers of inflammation. *Respiratory Medicine.* 2019; 151: 102-110.

DOI: <https://doi.org/10.1016/j.rmed.2019.03.017>

Analytes: Human IL-4, IL-5, IL-13, IL-6, IL-17A, IL-23, and TGF β 1

Sample type: Human serum

41. Shabrish S et al. IFN-g:IL-10 Ratio: a Putative Predictive Biomarker to Discriminate HLH From Severe Viral Infections. *J Clin Immunol.* 2019; 39(2):135-137.

PMID: 30783923

DOI: 10.1007/s10875-019-00601-y

Analytes: Human IFN- γ , TNF- α , IL-12p40, IL-4, IL-6, IL-10), GM-CSF, IL-2, IL-7, IL-15, IP-10, MIP-1 α , MIP-1 β , MCP-1

Sample type: Human serum

42. Leclaire MD et al. Lipofuscin-dependent stimulation of microglial cells. *Graefes Arch Clin Exp Ophthalmol.* 2019; 257: 931–952. <https://doi.org/10.1007/s00417-019-04253-x>

PMID: 30693383

DOI: 10.1007/s00417-019-04253-x

Analytes: Mouse Inflammation 17-Plex pre-mixed panel: IFN γ , IL-1 α , IL-1 β , IL-6, IL-9, IL-10, IL-12p70, IL-13, IL-15, IL-23p19, IP-10, KC, MCP-1, MIP-1 α , MIP-1 β , RANTES and TNF α .

Sample type: Mouse cell culture supernatants.

43. Dring KJ et al. Cytokine, glycemic, and insulinemic responses to an acute bout of games-based activity in adolescents. *Scandinavian Journal of Medicine & Science In Sports* 2019; 1-9
<https://doi.org/10.1111/sms.13378>

PMID 30580469

DOI: 10.1111/sms.13378

Analytes: Human IL-1 β , IL-6, TNF- α , IL-10, and CRP
Sample type: Human plasma

44. Gamallat Y, et al. Probiotic *Lactobacillus rhamnosus* modulates the gut microbiome composition attenuates preneoplastic colorectal Aberrant crypt foci. *Journal of Functional Foods* 2019; 53: 146–156 <https://doi.org/10.1016/j.jff.2018.12.018>

Analytes: Rat IL-2, IL-4, IL-6, IL-10, IL-17A, IFN- γ , and TNF- α
Sample type: Rat serum

45. Kimura M, et al. Neutrophilia and hyperamylasemia in patients with immediate food allergy. *Pediatrics International*, 2019; 61, 23–30, <https://doi.org/10.1111/ped.13728>;

PMID: 30402929

DOI: 10.1111/ped.13728

Analytes: Human IL-1 β , IL-2, IL-4, IL-5, IL-6, IL-8, IL-10, IL-12p70, IFN- γ , and TNF- α
Sample type: Human serum

46. C. Dentone et al. Inflammatory effects of atazanavir/ritonavir versus darunavir/ritonavir in treatment naïve, HIV-1-infected patients. *HIV Clinical Trials* 2018; 19 (4), 158-162, <https://doi.org/10.1080/15284336.2018.1488453>

DOI: 10.1080/15284336.2018.1488453

Analytes: Human IL-6, MCP-1, sCD163, VCAM-1, and adiponectin
Sample type: Human plasma

47. Hou Y, et al. Protective effects of Jiayan Kangtai granules on autoimmune thyroiditis in a rat model by modulating Th17/Treg cell balance. *Journal of Traditional Chinese Medicine* 2018; 38 (3), 380-390, [https://doi.org/10.1016/S0254-6272\(18\)30628-9](https://doi.org/10.1016/S0254-6272(18)30628-9)

Analytes: Rat IL-2, IL-6, IL-10, IL-17A, and TGF- β 1
Sample type: Rat plasma

48. Shih C, et al. Chronic pulmonary exposure to traffic related fine particulate matter causes brain impairment in adult rats. *Particle and Fibre Toxicology*, 2018, 15: 44;
<https://doi.org/10.1186/s12989-018-0281-1>

PMID: 30413208 PMCID: PMC6234801 DOI: 10.1186/s12989-018-0281-1

Analytes: Rat CCL5, CCL11, IL-4, and IL-6
Sample type: Rat plasma

49. Tlili A, et al. *Phlebotomus papatasi* Yellow-Related and Apyrase Salivary Proteins Are Candidates for Vaccination against Human Cutaneous Leishmaniasis. *Journal of Investigative Dermatology*. 2018, 138: 598-606

PMID: 29054598 DOI: 10.1016/j.jid.2017.09.043

Analytes: Human TH1/TH2/TH17 7-Plex Panel (IFN γ , IL-2, IL-4, IL-6, IL-10, IL-17A and TNF α)
Sample type: Cell Culture Supernatant

50. Dobri KD et al. Study of polymorphisms and expression of IL-17 in Greek patients with bronchial asthma. *European Respiratory Journal*, 2018; 52:PA4994.
https://erj.ersjournals.com/content/52/suppl_62/PA4994

DOI: 10.1183/13993003.congress-2018.PA4994

Analytes: Human IL-6, IL-17A, IL-23, TGF β 1
Sample type: Human serum

51. Wang MJ et al. Secretory Imbalance between Pro-inflammatory and Anti-inflammatory Cytokines in the Patients with Immune Thrombocytopenia. *Zhongguo Shi Yan Xue Ye Xue Za Zhi*. 2018;26(2):522-527. (Article in Chinese)

PMID: 29665926 DOI: 10.7534/j.issn.1009-2137.2018.02.036

Analytes: Human IL-8, IL-17A, IL-22, TNF- α , IFN- γ , IL-4, CD40, CD40L, TGF- β and IL-10.
Sample type: Human serum

52. He Y, et.al. Increased Soluble CD137 Levels and CD4+ T-Cell-Associated Expression of CD137 in Acute Atherothrombotic Stroke. *Clin Transl Sci*, 2018, 11: 428-434

PMID: 29697202 PMCID: PMC6039206 DOI: 10.1111/cts.12553

Analyte: sCD137
Sample type: Human plasma

53. Boutsikou E, et.al. Tumour necrosis factor, interferon-gamma and interleukins as predictive markers of antiprogrammed cell-death protein-1 treatment in advanced non-small cell lung cancer: a pragmatic approach in clinical practice. *Therapeutic Advances in Medical Oncology*, 2018, 10: 1-8.

PMID: 29662549 PMCID: PMC5894896 DOI: 10.1177/1758835918768238

Analytes: IFN- γ , TNF- α , IL-1 β , IL-2, IL-4, IL-5, IL-6, IL-8, IL-10, IL-12

Sample type: Human serum

54. Yin Y, et.al. Human umbilical cord-derived mesenchymal stem cells direct macrophage polarization to alleviate pancreatic islets dysfunction in type 2 diabetic mice. *Cell Death & Disease*. 2018, 9:760

PMID: 29988034 PMCID: PMC6037817 DOI: 10.1038/s41419-018-0801-9

Analytes: MCP-1, IL-1 β , IL-4, IL-6, IL-10, and TNF α

Sample type: Mouse serum and cell culture supernatant

55. Liang H, et.al. Elevated peripheral blood B lymphocytes and CD3+CD4-CD8- T lymphocytes in patients with non-small cell lung cancer: A preliminary study on peripheral immune profile. *Oncology Letters*. 2018, 15: 8387-8395.

PMID: 29805573 PMCID: PMC5950528 DOI: 10.3892/ol.2018.8424

Analytes: IFN γ , IL-2, IL-4, IL-10, IL-17A, TNF α , TGF- β 1

Sample type: Human serum

56. Yang J, et.al. Hypoxia Inducible Factor 1 α Plays a Key Role in Remote Ischemic Preconditioning Against Stroke by Modulating Inflammatory Responses in Rats. *J Am Heart Assoc*, 2018, 7: e007589.

PMID: 29478025 PMCID: PMC5866324 DOI: 10.1161/JAHA.117.007589

Analytes: IFN γ , IL-1 β , IL-4, IL-6, IL-10

Sample Type: Rat plasma

57. Shimomura M, et. al. Increased serum cortisol on oral food challenge in infants with food protein-induced enterocolitis syndrome. *Pediatrics International*, 2018, 60: 13–18.

PMID: 29095536 DOI: 10.1111/ped.13449

Analytes: IL-8

Sample type: Human serum

58. Schroff A, et. al. Knockout of autophagy gene, ATG5 in mice vaginal cells abrogates cytokine response and pathogen clearance during vaginal infection of *Candida albicans*. *Cellular Immunology*, 2018, 324: 59-73

PMID: 29306553 DOI: 10.1016/j.cellimm.2017.12.012

Analytes: G-CSF, IL-1 α , IL-1 β , IL-6, IL-10, IL17A, IL-22, IL-23p19 and TNF- α
Sample type: Mouse vaginal lavages

59. Miyagawa I, et. al. Induction of Regulatory T Cells and Its Regulation with Insulin-like Growth Factor/Insulin-like Growth Factor Binding Protein 4 Human Mesenchymal Stem Cells. *J Immunol*, 2017; 199:1616-1625.

PMID: 28724578 DOI: 10.4049/jimmunol.1600230

Analytes: IGF-1 and IGF-2
Sample type: Bone marrow-derived hMSCs Cell cultures

60. Dong w, et.al. Dampness-Heat Accelerates DMBA-Induced Mammary Tumors in Rats. *Chin J Integr Med*, 2017. <https://doi.org/10.1007/s11655-017-2821-1>

PMID: 28914439 DOI: 10.1007/s11655-017-2821-1

Analytes: TNF- α and IL-1 β
Sample Type: Rat serum and tumor tissues

61. Ji W et al. Study on the Inhibitory Effects of Ephedra Aconite Asarum Decoction on LPS-Induced Dendritic Cells. *Evidence-Based Complementary and Alternative Medicine*, 2017; 10:1-9.

PMID: 29333181 PMCID: PMC5733235 DOI:10.1155/2017/3272649

Analytes: Mouse IL-12, IFN- γ , IL-6, IL-1 β , IL-4, IL-13
Sample Type: Mouse bone marrow-derived dendritic cell culture supernatant

62. Schliefssteiner C, et. al. Human Placental Hofbauer Cells Maintain an Anti-inflammatory M2 Phenotype despite the Presence of Gestational Diabetes Mellitus. *Front Immunol*, 2017, 8: 888.

PMID: 28824621 PMCID: PMC5534476 DOI: 10.3389/fimmu.2017.00888

Analytes: A human custom 23-Plex Panel
Sample type: Human Hofbauer cells (HBCs), macrophages of the fetoplacental unit

63. Deng P, et al. The herbal decoction modified Danggui Buxue Tang attenuates immune-mediated bone marrow failure by regulating the differentiation of T lymphocytes in an immune-induced aplastic anemia mouse model. *PLOS One* 2017, <http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0180417>.

PMID: 28683082 PMCID: PMC5500321 DOI: 10.1371/journal.pone.0180417

Analytes: IFN γ , IL-2, IL-4, IL-6, IL-10 and IL-17A
Sample type: Mouse peripheral blood

64. Song X, et al. Effect of perioperative intravenous lidocaine infusion on postoperative recovery following laparoscopic cholecystectomy-A randomized controlled trial. *International Journal of Surgery*, 2017, 45: 8-13

PMID: 28705592 DOI: 10.1016/j.ijssu.2017.07.042

Analytes: IL-1ra, IL-6 and IL-8
Sample type: Human Plasma cells in culture media

65. Li F, et al. Cytokine profiles in papillary thyroid carcinoma, with or without Hashimoto's thyroiditis. *European J Inflammation*, 2017, 15: 257-261.

DOI: 10.1177/1721727X17739515

Analytes: IL-10, IL-17, IL-35, IFN- γ
Sample type: Human serum

66. Tang H, et. al. Effect of inhibitors of endocytosis and NF- κ B signal pathway on folate-conjugated nanoparticle endocytosis by rat Kupffer cells. *International J Nanomedicine*, 2017, 12: 6937-6947.

PMID: 29075112 PMCID: PMC5609780 DOI: 10.2147/IJN.S141407

Analytes: TNF- α , IL-1 β and IL-6
Sample type: Rat Kupffer cells (cell culture)

67. Suda J, et al. Knockdown of RIPK1 Markedly Exacerbates Murine Immune-Mediated Liver Injury Through Massive Apoptosis of Hepatocytes, Independent of Necroptosis and Inhibition of NF- κ B. *J Immunol*, 2016, 197: 3120-3129.

PMID: 27605011 PMCID: PMC5101131 DOI: 10.4049/jimmunol.1600690

Analytes: CXCL1, CXCL2, IFN- γ , IL-6, IL-17A and TNF- α .
Sample type: Mouse serum

68. Loegl J, et al. Hofbauer cells of M2a, M2b and M2c polarisation may regulate fetoplacental angiogenesis. *Reproduction*, 2016, 152: 447-455.

PMID: 27534571 DOI: 10.1530/REP-16-0159

Analytes: FGF-2 and VEGF.

Sample type: Cell culture conditioned medium

69. Timperi E, et al. Regulatory T cells with multiple suppressive and potentially pro-tumor activities accumulate in human colorectal cancer. *Oncology*, 2016, 5: e1175800.

PMID: 27622025 PMCID: PMC5006916 DOI: 10.1080/2162402X.2016.1175800

Analytes: IL-1 β , IL-6 and IL-23p19.

Sample type: Human tissue-conditioned medium

70. Xing Y et al. Human cytomegalovirus infection contributes to glioma disease progression via up-regulating endocan expression. *Translational Research*, 2016,;177:113-126

PMID: 27474433 DOI: 10.1016/j.trsl.2016.06.008

Analytes: IFN- γ , IL-6, and TNF- α .

Sample type: Cell culture supernatant

71. Yang M et al. Macrophages participate in local and systemic inflammation induced by amorphous silica nanoparticles through intratracheal instillation. *Int J Nanomedicine*, 2016. 11: 6217-6228.

PMID: 27920528 PMCID: PMC5125762 DOI: 10.2147/IJN.S116492

Analytes: Mouse IL-1 β , IL-18, TNF- α , IL-6.

Sample type: Mouse serum

72. Ren W, et al. Pharmacokinetic-Pharmacodynamic Analysis on Inflammation Rat Model after Oral Administration of Huang Lian Jie Du Decoction. *PLoS ONE* 2016, Jun 9;11(6) <http://dx.doi.org/10.1371/journal.pone.0156256>.

PMID: 27280291 PMCID: PMC4900566 DOI: 10.1371/journal.pone.0156256

Analytes: IFN- γ , IL-6, IL-1 β , MIP-2, TNF- α , IL-13 and IL-10.

Sample type: Rat plasma

73. Gu Q, et al. Genomic characterization of a large panel of patient-derived hepatocellular carcinoma xenograft tumor models for preclinical development. *Oncotarget*, 2015, 6: 20160-20176.

PMID: 26062443 PMCID: PMC4652995 DOI: 10.18632/oncotarget.3969

Analyte: Human AFP
Sample type: Mouse serum

74. Fan X, et al. Berberine alleviates ox-LDL induced inflammatory factors by up-regulation of autophagy via AMPK/mTOR signaling pathway. *Journal of Translational Medicine*, 2015, 13: 92.

PMID: 25884210 PMCID: PMC4365560 DOI: 10.1186/s12967-015-0450-z

Analytes: Mouse Inflammation 17-Plex Panel (IFN γ , IL-1 α , IL-1 β , IL-6, IL-9, IL-10, IL-12p70, IL-13, IL-15, IL-23, IP-10, KC, MCP-1, MIP-1 α , MIP-1 β , RANTES and TNF α)
Sample type: Cell culture supernatant

75. Xu S, et al. Salvianolic acid B inhibits platelets-mediated inflammatory response in vascular endothelial cells. *Thromb Research*, 2015, 135: 137-145.

PMID: 25466843 DOI: 10.1016/j.thromres.2014.10.034

Analytes: ICAM-1, IL-1 β , IL-6, IL-8 and MCP-1
Sample type: Cell culture supernatant

76. Breyne K, et al. Non-Classical ProIL-1beta Activation during Mammary Gland Infection Is Pathogen-Dependent but Caspase-1 Independent. *PLoS ONE* 2014, 9(8): e105680. doi:10.1371/journal.pone.0105680.

PMID: 25162221 PMCID: PMC4146512 DOI: 10.1371/journal.pone.0105680

Analytes: KC and MIP-2
Sample Type: Mouse mammary gland lysate and serum

77. Zhang Y, et al. Research on the analgesic effect and mechanism of gabapentin on rat model with tibia metastatic cancer pain. *Chinese J Biochemical Pharmaceutics*, 2014, 3: 8-15.

Analytes: IL-12p70, IFN γ and β -NGF
Sample type: Rat tibia metastatic tissue lysate