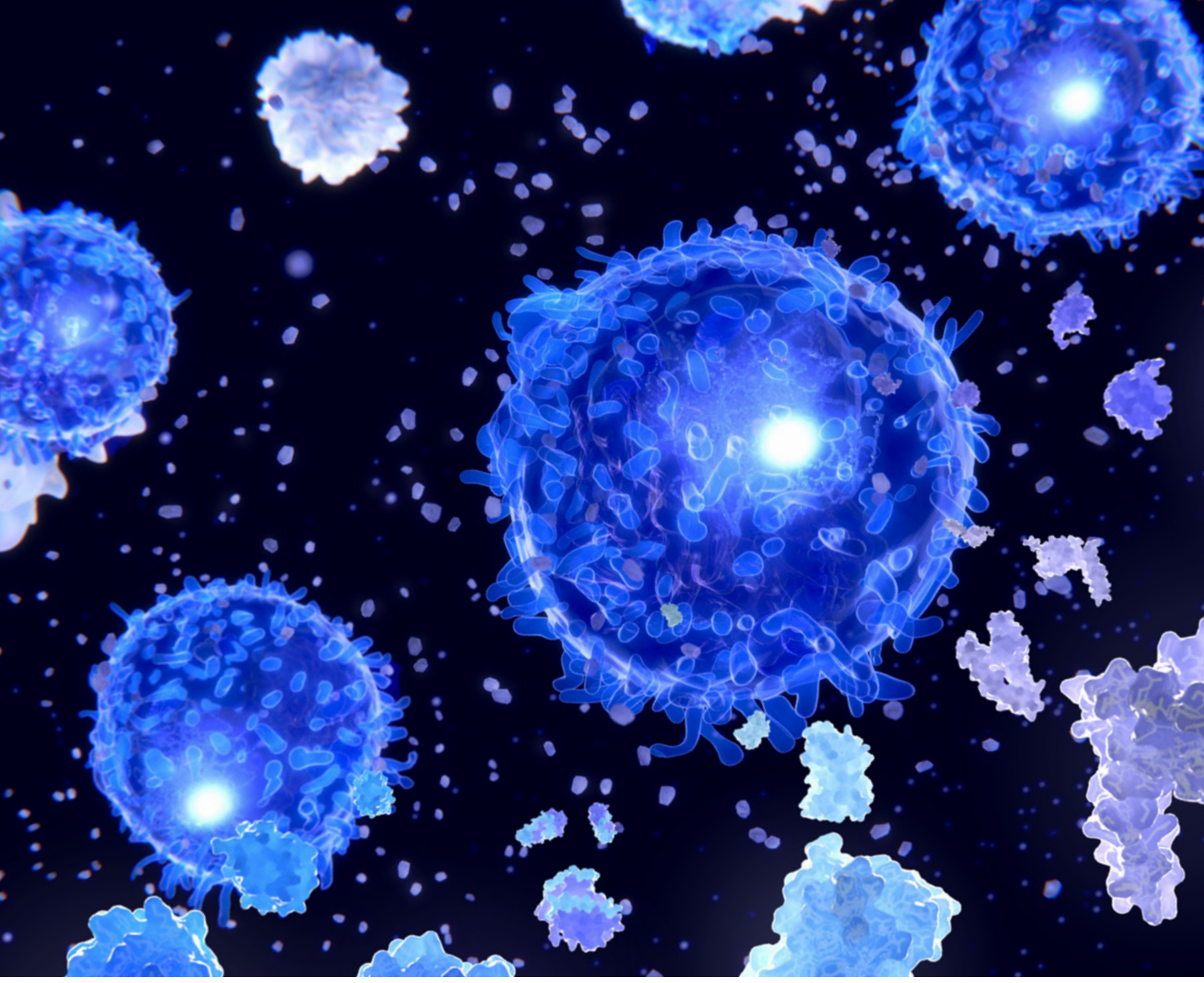

Broadest cytokine menu on the market

For a fuller disease-state picture

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Chronic inflammation: A cause of concern

In recent years, chronic inflammation has become a significant area of concern in medical and mainstream communities. As the incidence of chronic diseases has increased to become the most significant cause of death in the world, according to the World Health Organization (WHO),[1] so has the need to study and understand the origin of inflammation and the body's response to it.

Inflammation is a biological response of the immune system triggered by a variety of factors that may lead to tissue damage or disease. Chronic inflammation is characterized by the release of inflammatory cells and cytokines over a prolonged period.[2] Cytokines are small proteins that act as messengers between cells and regulate immune response; as such, they play many roles in the immune system. Due to their vast pro- and anti-inflammatory effects, cytokines have been implicated in various disease processes.

Early detection and accurate measurement of cytokines are key

Early detection of inflammatory markers can indicate the onset of inflammatory disease and accurate measurement of cytokines can help physicians assess risk and make timely interventions.

Elevated serum levels of pro- and anti-inflammatory cytokines have been found in patients with acute or chronic inflammatory diseases and conditions, such as cytokine storm,[3] cancer,[4] major depressive disorder,[5] respiratory diseases,[3] rheumatoid arthritis,[6] and diabetes.[7]

Table 1. Key cytokines, their function, and pathological association/effect.[8,9]

Cytokine	Main Function	Pathological Association/Effect
IL-1β	Inflammatory; promotes activation, costimulation, and secretion of cytokines and other acute-phase proteins; pyrogenic.	↑ inflammatory bone resorption; gout; promotes Th17 response.
IL-2	Proliferation; enhancement of cytotoxicity, IFNγ secretion, and antibody production.	↓ lymphoproliferative disease and susceptibility to autoimmune disease; reduced Treg development. ↑ reduced Th17 development.
IL-8	Attracts immune cells to the site of infection.	↑ inflammation.
IL-6	Inflammatory and costimulatory action; induces proliferation and differentiation.	↓ deficient innate immunity and acute-phase responses, lymphopenia. ↑ inflammation.
IL-10	Immune suppression; decreases antigen presentation and MHC class II expression of dendritic cells; down-regulates pathogenic T helper cell response.	↓ immune pathology due to uncontrolled inflammation. ↑ inhibits sterile immunity to some pathogens.
TNFα	Inflammatory; promotes activation and production of acute-phase proteins.	↓ disregulated fever; increased susceptibility to bacterial infection; enhanced resistance to LPS-induced septic shock. ↑ exacerbation of arthritis and colitis.

See a more comprehensive inflammatory disease state picture with the broadest automated inflammation assay menu on the market

Dedicated to improving outcomes for labs and patients, Siemens Healthineers is the first supplier to offer fully automated, random-access immunoassays for IL-1β, IL-2R, IL-6, IL-8, IL-10, TNFα, and LBP. These assays are available on the IMMULITE® 2000/2000 XPi Immunoassay System, making the study of inflammatory diseases accessible to any-sized lab.

Assay	Atellica Solution System	ADVIA Centaur Systems	IMMULITE 2000/XPi Systems	Roche	Abbott	Beckman	QuidelOrtho	DiaSorin	Snibe
IL-1β			●†						
IL-2R	●*	●*	●†						
IL-6	●‡	●§	●†	●§		●§			●‡
IL-8			●†						
IL-10			●†						
LBP	●‡	●‡	●†						
TNFα	●*	●*	●†						●*

As of December 2023.

IMMULITE 2000/2000 XPi Systems assay characteristics

Assay	Time to First Result	Sample Type	Sample Volume	Sensitivity (LoQ)	Assay Range	Adjustment Interval	Onboard Stability	Method Comparison (comparison to IMMULITE/ IMMULITE 1000 System)
IL-1β	65 min	serum, plasma (lithium heparin)	75 µL	16 pg/mL	16–1,000 pg/mL	2 weeks	90 days	IML 2000 = 1.06 (IML) – 9.26 pg/mL r = 0.997
IL-8	35 min	serum, plasma (EDTA, lithium heparin)	50 µL	1.2 pg/mL	5–7,500 pg/mL	2 weeks	90 days	IML 2000 = 1.01 (IML) – 98.2 pg/mL r = 0.990
IL-10	65 min	serum, plasma (lithium heparin)	100 µL	1.2 pg/mL	5–1,000 pg/mL	2 weeks	90 days	IML 2000 = 0.92 (IML) + 9.21 pg/mL r = 0.996
TNFα	65 min	serum, plasma (lithium heparin)	100 µL	3.8 pg/mL	4–1,000 pg/mL	2 weeks	90 days	IML 2000 = 0.93 (IML) + 5.68 pg/mL r = 0.988

IMMULITE 2000 XPi system and an extensive, fully automated inflammation menu: a powerful combination

The IMMULITE 2000/2000 XPi Immunoassay System offers the broadest menu of inflammatory markers, making it simple to scale lab capabilities without disrupting regular day-to-day operations.

- Get rapid results with a turnaround time of just 35–65 minutes.††
- Improve inflammation testing workflow by leveraging an automated, easy-to-use analyzer.
- Help reduce costs by consolidating inflammation testing on a single system with proven reliability.

Contact your Siemens Healthineers representative today to learn how your lab can get a more complete inflammatory disease-state picture with the broadest, fully automated inflammation immunoassay portfolio on the IMMULITE 2000/2000 XPi Immunoassay System.

**Under development.*
†Research use only in the U.S.
‡Not available for sale in the U.S.
§This test has not been FDA-cleared or approved. This test has been authorized by FDA under an EUA for use by authorized laboratories. This test has been authorized to assist in identifying severe inflammatory response, when used as an aid in determining the risk of intubation with mechanical ventilation in confirmed COVID-19 patients. This test is only authorized for the duration of the declaration that circumstances exist justifying the authorization of emergency use of in vitro diagnostics for detection and/or diagnosis of COVID-19 under Section 564(b)(1)of the Act, 21. U.S.C Act 21 U.S.C. § 360bbb-3(b)(1)
***For use with IL-8, IL-10.*
††Source: Siemens Healthineers IFUs.

Ordering information

	SMN	Catalog #	Contents
IMMULITE 2000/2000 XPi IL-1β	11562390	L2KL12	200 test kit: Includes bead pack, reagent wedge, low and high adjustors (1 vial each, lyophilized)
IMMULITE 2000/2000 XPi IL-8	11562389	L2K8P2	200 test kit: Includes bead pack, reagent wedge, low and high adjustors (1 vial each, lyophilized)
IMMULITE 2000/2000 XPi IL-10	11562391	L2KXP2	200 test kit: Includes bead pack, reagent wedge, low and high adjustors (1 vial each, lyophilized)
IMMULITE 2000/2000 XPi TNFα	11562388	L2KNF2	200 test kit: Includes bead pack, reagent wedge, low and high adjustors (1 vial each, lyophilized)
IMMULITE Cytokine Control Module	10385389	LILCM	Bi-level, human serum-based, lyophilized controls
IMMULITE IL-10 Control Module	10385248	LXPCM	Bi-level, human serum-based, lyophilized controls
Multi-diluent 2*	10283031	L2M2Z	One vial, 25 mL
	10387058	L2M2Z4	One vial, 55 mL

**For use with IL-8, IL-10.*

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