

PyroCell[®] Monocyte Activation Test Systems



Enhance sustainability in pyrogen testing

Parenteral preparations are required to be free of pyrogenic contaminants that may induce life-threatening reactions in a patient. Traditional test methods helping to ensure drug safety rely on experimental rabbits (Rabbit Pyrogen Test, RPT), and the blood of the horseshoe crab (Bacterial Endotoxin Test, BET). Sustainable development goals as well as the increasing complexity of modern drug formulations and their manufacture limit the utility of the traditional pyrogen test methods.

Expanding upon our decades of endotoxin expertise we look ahead to the changing regulatory environment that impacts the way pyrogen testing is performed.

Pyrogens detected by compendial methods

Identification		MAT	RPT	BET
Pyrogens	Endotoxin	☑	☑	☑
	Other bacteria	☑	☑	
	Yeast / Fungi	☑	☑	
	Virus , DNA, RNA	☑	☐	
	Particles	☑		
Applications	Lipids	☑	☑	
	Proteins (Bioprocess)	☑		☐
	Blood therapeutics	☑		☑
	Cellular therapeutics	☑		☑
	Immunogenic biologics	☐		☑
	Vaccines	☑	☐	☑
Experimental controls		☑		☑
Pyrogenicity		Human	Mammal	Endotoxin
Experimental animals		No	Yes	No*

The MAT is best suited to detect pyrogens in biologics.
*Utilizes horseshoe crab blood (natural resource)

☑ Suited ☐ Limitations

Using qualified cells and cryopreserved donor pools

With the PyroCell® MAT System, you can eliminate the reliance on animal-based pyrogen testing, helping to ensure product safety and compliance, and bring your next drug to market.


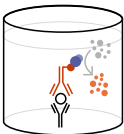
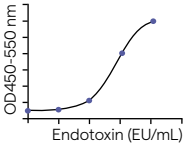
Ethical cell sourcing – MAT-specific human blood donations are prepared in a validated time frame in endotoxin-free environments.

High quality preparations – Demonstrated with quality certificates for critical MAT parameters.

Available on demand – Cryopreserved pools, no cell isolations prior to each experiment.

PyroCell® Test principle

The PyroCell® MAT measures the response of human monocytes, the key cells of innate immunity, to the presence of pyrogens by detecting the secreted, pro-inflammatory IL-6 cytokines in cell culture supernatants.

Process	
Stimulation	<p>Incubate pMAT cells with a test substance for 18-24 hours</p> 
Detection	<p>Detect cytokines in cell culture supernatants with a IL-6 ELISA</p> 
Analysis	<p>Calculate the pyrogen content in the original test sample (EEU/mL)</p> 

PyroCell® MAT features and benefits

Patient safety – The full range of pyrogens (endotoxin and non-endotoxin pyrogens) is detected in one test.

No experimental animals – Replaces the Rabbit Pyrogen Test

Human-specific – Primary human cells mimic the innate human response to pyrogens

Flexible – Choice of supplements for safe testing of modern biologics

Standardized – Robust application and assay controls meet high sensitivity for reliable results

Ordering information

Cat. No.	Name	Description	Capacity
296407	PyroCell® MAT Rapid System	PyroCell® MAT Kit and PeliKine Human IL-6 ELISA Rapid Kit	288 tests
296408	PyroCell® MAT HS Rapid System	PyroCell® MAT HS Kit and PeliKine Human IL-6 ELISA Rapid Kit	288 tests
249735	PyroCell® MAT Kit	3 vials pMAT cells, 3 vials MAT culture medium supplement	288 tests
279770	PyroCell® MAT HS Kit	3 vials pMAT cells, 3 vials Human Serum supplement	288 tests
296406	PeliKine Human IL-6 ELISA Rapid Kit	Pelikine Human IL-6 ELISA Rapid Set A and Set B	288 tests

To learn how the PyroCell® MAT System can support your next step in pyrogen testing, visit www.lonza.com/mat

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