



## ***iLite*<sup>™</sup> TLR4 Assay Ready Cells**

(REF: BM4024)

### **Description**

*iLite*<sup>™</sup> TLR4 Assay Ready Cells are based on a human erythroleukemia cell line (K562, ATCC# CCL-243) that has been genetically engineered and optimized to respond to stimulus of Toll-like receptor 4 by specific and proportional expression of Firefly Luciferase. Normalization of cell counts and serum matrix effects is obtained by a second reporter gene, a Renilla Luciferase reporter gene construct, under the control of a constitutive promoter.

### **Content**

>250 µL of *iLite*<sup>™</sup> Assay Ready Cells suspended in RPMI 1640 with 20% heat inactivated fetal bovine serum (FBS), mixed 1:1 with cryoprotective medium from Lonza (Cat. No 12-132A).

### **Receipt and storage**

Upon receipt confirm that adequate dry-ice is present and the cells are frozen. Immediately transfer to -80°C storage. Cells should be stored at -80°C (**do not store at any other temperature**) and are stable as supplied until the expiry date shown. Cells should be used within 30 min of thawing.

### **Background**

The Toll-like receptor (TLR) family, a fundamental part of our immune response, is crucial for triggering innate immunity, and forms the first link to inducing adaptive immunity. TLRs are highly evolutionary conserved across species, from fruit flies to humans. TLR4 is most well-known for recognizing lipopolysaccharide, a component of Gram-negative bacteria, but its ligands also include several viral proteins, polysaccharide, and a variety of endogenous proteins such as low-density lipoprotein, beta-defensins, and heat shock protein (1).

Activation of TLR4 leads to secretion of a number of proinflammatory cytokines, such as TNF-α, IL-1β, IL-6 and Type I IFN. For this reason, a number of TLR4 antagonists are in development for treatment of inflammatory diseases such as inflammatory bowel disease (IBD), rheumatoid arthritis and multiple sclerosis. In contrast to this, TLR4 agonists are explored within oncology, where the immunostimulatory effect of TLR4 is used to enhance the immune response towards tumor cells (2).

### **Application**

The *iLite*<sup>™</sup> TLR4 Assay Ready Cells can be used for the quantification TLR4 stimulation, and TLR4 inhibitor activity either in buffer systems or in human serum.

- Quantification of TLR4 stimulation (E-222-GB)
- Quantification of TLR4 inhibitor activity (E-225-GB)

### **Related products**

<b>REF</b>	<b>Product name</b>
BM3044	<i>iLite</i> <sup>™</sup> TNF-alpha Assay Ready Cells
BM4023	<i>iLite</i> <sup>™</sup> IL-23 Assay Ready Cells
BM4012	<i>iLite</i> <sup>™</sup> IL-12 Assay Ready Cells



## References

1. Rock FL, Hardiman G, Timans JC, Kastelein RA, Bazan JF. *A family of human receptors structurally related to Drosophila Toll*, PNAS 95:588-93 (1998).
2. Hennessy EJ, Parker AE, O'Neill LA. *Targeting Toll-like receptors: emerging therapeutics?* Nature Reviews Drug Discovery 9:293-307 (2010).

## Symbols on label

	Lot number		Temperature limitation
	Catalogue number		Biohazard
	Use by		Manufacturer

## Precautions

- For research use only. This product is intended for professional laboratory research use only. The data and results originating from using the product, should not be used either in diagnostic procedures or in human therapeutic applications.

- *iLite*<sup>TM</sup> TLR4 Assay Ready Cells are a stable transfected cell line of human origin as a Class 1 Genetically Modified Microorganism. They should be handled in accordance with EU regulations (2009/41/EC) and disposed of in a licensed contained-use facility in accordance with these regulations. When used in accordance with the manufacturer's product specification, the requirements of EC Directive 2009/41/EC on the contained-use of genetically modified microorganisms are deemed to have been met.

- Residues of chemicals and preparations generally considered as biohazardous waste, and should be inactivated prior to disposal by autoclaving or using bleach. All such materials should be disposed of in accordance with established safety procedures.

## Propriety information

In accepting delivery of *iLite*<sup>TM</sup> Assay Ready Cells the recipient agrees not to sub-culture these cells attempt to sub-culture them or to give them to a third party, and only to use them directly in assays. Biomonitor *iLite*<sup>TM</sup> cell-based products are covered by patents which is the property of Euro Diagnostica AB and any attempt to reproduce the delivered *iLite*<sup>TM</sup> Assay Ready Cells is an infringement of these patents.