

***iLite*[®] TLR4 Assay Ready Cells**

REF: BM4025

For research use only. Not for use in diagnostic procedures.

DESCRIPTION

iLite[®] TLR4 Assay Ready Cells are based on the human erythromyeloblastoid leukemia cell line (K562), and have been genetically engineered and optimized to be responsive to Lipopolysaccharide (LPS) through Toll-like Receptor 4 (TLR4), resulting in a 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 Assay Ready Cells suspended in cryoprotective medium from Gibco (Cat. No 12648-010).

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 and should be diluted immediately after thawing.

BACKGROUND

The toll-like receptor (TLR) family consist of receptors responsible for pattern recognition in innate immunity, key in the detection of pathogens and immune responses (1). The TLR4 is the most studied member of this family and induces pro-inflammatory responses upon invasion of pathogens. TLR4 is activated by binding of lipopolysaccharide (LPS, endotoxin) from Gram-negative bacteria (2). An important role of TLR4 is described in many inflammatory diseases including sepsis, asthma, cancer, acute kidney injury, or intestinal inflammation among others (1–4). Briefly, TLR4 signaling is induced upon activation in the plasmatic membrane. The signal transduction extends through TIRAP and MyD88 adaptor proteins, in early endosomes the signal pathway continues via the adaptor proteins TRAM and TRIF (2). Currently, scientist attention had been drawn to identify new molecules that can inhibit/reduce TLR4 signaling for several diseases (1,3,4).

APPLICATION

The *iLite*[®] TLR4 Assay Ready Cells can be used for the quantification of LPS and for detection of TLR4 inhibiting activity in test samples, including human serum.

Application Notes for the following assays are available:

- Quantification of LPS (LABEL-DOC-0552)
- Quantification of TLR4 inhibitor (LABEL-DOC-0553)

RELATED PRODUCTS

REFERENCES

SYMBOLS ON LABEL

PRECAUTIONS

PROPRIETARY INFORMATION

REF **Product name**
 BM6050 *iLite*[®] cGMP/GC Responsive Assay Ready Cells

1. Kashani B, Zandi Z, Pourbagheri-Sigaroodi A, Bashash D, Ghaffari SH. The role of toll-like receptor 4 (TLR4) in cancer progression: A possible therapeutic target? *J Cell Physiol.* 2021;236(6):4121–37.
2. Ciesielska A, Matyjek M, Kwiatkowska K. TLR4 and CD14 trafficking and its influence on LPS-induced pro-inflammatory signaling. *Cell Mol Life Sci.* 2021;78(4):1233–61.
3. Jha AK, Gairola S, Kundu S, Doye P, Syed AM, Ram C, et al. Toll-like receptor 4: An attractive therapeutic target for acute kidney injury. *Life Sci.* 2021;271:119155.
4. Tam JSY, Collier JK, Hughes PA, Prestidge CA, Bowen JM. Toll-like receptor 4 (TLR4) antagonists as potential therapeutics for intestinal inflammation. *Indian J Gastroenterology.* 2021;1–17.

	Lot number		Temperature limitation
	Catalogue number		Biological risk
	Use by		Manufacturer

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[®] TLR4 Assay Ready Cells are a stable transfected cell line of human origin classified as a Class 1 Genetically Modified Microorganism. They should be handled in accordance with EU directive (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 should be inactivated prior to disposal by autoclaving or using bleach. All such materials should be disposed of in accordance with established safety procedures.

In accepting delivery of *iLite*[®] 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. *iLite*[®] cell-based products are covered by patents which is the property of Svar Life Science AB and any attempt to reproduce the delivered *iLite*[®] Assay Ready Cells is an infringement of these patents.