iLite® ADCP Effector Assay Ready Cells

REF: BM5004

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

DESCRIPTION

iLite® ADCP Effector Assay Ready Cells are human engineered cells (Jurkat, ATCC #TIB-152) optimized to express high levels of the low affinity Fc receptor FcγRIIa (CD32), and the Firefly Luciferase (FL) reporter gene regulated by the NFAT response element. The ADCP reporter bioassay can be used to screen for biologics and other drugs via binding and activation of the FcγRIIa receptor.

Normalization of cell counts, serum matrix effects or lysis of the effector cells by the target cells is obtained by a second reporter gene, a Renilla Luciferase reporter gene construct, under control of a constitutive promotor.

CONTENT

>250 µL of *iLite*® 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 or at lower temperature and are stable as supplied until the expiry date shown. Cells should be diluted and plated immediately after thawing.

BACKGROUND

Fc:FcγR interactions are highly involved in antitumor therapy and the mechanism of action is called antibody-dependent-cell-mediated phagocytosis (ADCP) which is mediated by the therapeutic antibody (1).While the antibody is binding to the tumor cell, the Fc portion of the antibody can engage the immune system to destroy the tumor by engagement of Fc receptors for IgG (FcγR) which are expressed by monocytes, macrophages, neutrophils and dendritic cells (1). This is resulting in internalization and degration of the pathogenic cell through phagosome acidification (1). Among the Fcγ-receptors (FcγRIIa, FcγRI and FcγRIIIa) the most important receptor involved in ADCP is FcγRIIa.

The first monoclonal antibody for treating cancer to be FDA approved was Rituximab which in part utilizes the antibody-dependent cellular cytotoxicity (ADCC) and ADCP mechanisms to destroy cancer cells expressing CD20 (2). The majority of therapeutic monoclonal antibodies are generating their effector cell functions by engaging their Fc part and thereby inducing ADCC and ADCP (2,3). Importantly, Fc-engineered antibodies with modulated effector functions to fit specific mechanisms of actions and cancer therapies are generated (3).

Svar Life Science AB

Lundavägen 151
SE-212 24 Malmö
Sweden

P.O. Box 50117
SE-202 11 Malmö
Sweden

info@svarlifescience.com
+46 40 53 76 00

APPLICATION

The *iLite*® ADCP Effector Assay Ready Cells can be used together with *iLite*® Target Assay Ready Cells for quantification of ADCP activity. Please see:

- Quantification of anti-CD20 ADCP activity (LABEL-DOC-0583)
- Quantification of anti-HER2 ADCP activity (LABEL-DOC-0584)
- Quantification of anti-mTNF-alpha ADCP activity (LABEL-DOC-0585)

RELATED PRODUCTS

REF	Product name
BM5010	*iLite*® CD20 (+) Target Assay Ready Cells
BM5015	*iLite*® CD20 (-) Target Assay Ready Cells
BM5011	*iLite*® HER2 (+) Target Assay Ready Cells
BM5016	*iLite*® HER2 (-) Target Assay Ready Cells
BM5013	*iLite*® mTNF-alpha (+) Target Assay Ready Cells
BM5014	*iLite*® mTNF-alpha (-) Target Assay Ready Cells
BM5001	*iLite*® ADCC Effector (V) Assay Ready Cells
BM5005	*iLite*® CD3 Effector Assay Ready Cells

REFERENCES

1. Graziano RF and Engelhardt JJ. *Role of FcγRs in Antibody-Based Cancer Therapy*, Curr Top Microbiol Immunol. 423:13-34 (2019)
2. Grillo-López AJ, White CA, Varns C, et al. *Overview of the clinical development of rituximab: first monoclonal antibody approved for the treatment of lymphoma,* Semin Oncol 26:66-73 (1999).
3. Liu R, Oldham RJ, Teal E, Beers SA, and Cragg MS. *Fc-Engineering for Modulated Effector Functions—Improving Antibodies for Cancer Treatment, Antibodies.* 9(4):64 (2020)

SYMBOLS ON LABEL

LOT	Lot number		Temperature limitation
REF	Catalogue number		Biological risk
	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® ADCP Effector 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 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.

PROPRIETARY INFORMATION

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.