

***iLite*[®] mVEGF (+) Target Assay Ready Cells**

REF: BM5017

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

DESCRIPTION

iLite[®] mVEGF (+) Target Assay Ready Cells are based on a human embryonic kidney cell line, HEK293¹ and have been genetically engineered and optimized to express high and constant levels of membrane bound Vascular Endothelial Growth Factor (VEGF). The cells are to be used as target cells together with *iLite*[®] ADCC Effector (V) Assay Ready Cells for measuring the ADCC activity of anti-VEGF antibodies.

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 or at lower temperature and are stable as supplied until the expiry date shown. Cells should be diluted and plated immediately after thawing.

BACKGROUND

Antibody-dependent cell-mediated cytotoxicity (ADCC) is a mechanism whereby pathogenic cells are lysed by lymphocytes, mainly Natural Killer (NK) cells. The mechanism involves binding of antibodies to surface antigens on the pathogen. Crosslinking of these antibodies to NK cells through the binding of the Fc-portion to Fc receptors on the NK cells results in activation of the NK cell and formation of an immune synapse with the pathogenic cell. The NK cell releases cytotoxic granules containing granzymes and perforin into the synapse, inducing apoptosis of the targeted cell (1). ADCC is one mode of action for several antibodies targeting membrane bound antigens such as rituximab (target CD20) and trastuzumab (target HER2) while therapeutics directed to soluble targets mainly work by inhibiting the binding of the antigen to its receptor, such as infliximab (target TNF-alpha) and bevacizumab (target VEGF).

Vascular Endothelial Growth Factor (VEGF) is a signalling protein which is involved in both normal vascular growth and pathological angiogenesis (2). VEGF is secreted from cells and a large portion can be found bound to the extra cellular matrix (ECM) (3). Anti-VEGF treatment is widely used as cancer therapy, the drug inhibits angiogenesis and thereby limits the tumours growth and ability to metastasize (4). In 2004, Bevacizumab was the first anti-VEGF

¹ The HEK-293 cell line has been used under a license obtained from AdVec Inc.

therapeutic antibody to be approved for treatment in metastatic colon cancer. Anti-VEGF therapeutics act as inhibitors of VEGF and its receptor interactions. Today, it is additionally approved for several other cancer forms (5). Bevacizumab biosimilar agents are also available and more are in clinical trials. Furthermore, anti-VEGF treatment (ranibizumab, aflibercept) is used as intravitreal injections to reduce the pathogenic neovascularization in wet age-related macular degeneration.

iLite[®] mVEGF Target Assay Ready Cells can be used for assessing the possibility of an anti-VEGF antibody drug inducing ADCC.

APPLICATION

The *iLite*[®] mVEGF (+) Target Assay Ready Cells can be used together with *iLite*[®] ADCC Effector (V) and *iLite*[®] mVEGF (-) Target Assay Ready Cells for the quantification of ADCC activity of anti-VEGF antibodies.

- Quantification of anti-mVEGF ADCC activity (LABEL-DOC-0494)

RELATED PRODUCTS

REF	Product name
BM5001	<i>iLite</i> [®] ADCC Effector (V) Assay Ready Cells
BM5018	<i>iLite</i> [®] mVEGF (-) Target Assay Ready Cells

REFERENCES

1. Weiner GJ. *Building better monoclonal antibody-based therapeutics*. Nat Rev Cancer 15(6): 361-70 (2015).
2. Risau, W. *Mechanisms of angiogenesis*. Nature 386: 671 – 674 (1997).
3. Guzmán-Hernández M et al. Secretion of VEGF-165 has unique characteristics, including shedding from the plasma membrane. Mol Biol Cell. 2014 Apr;25(7):1061-72.
4. Claesson-Welsh L et al. *VEGFA and tumour angiogenesis*. J Intern Med. 2013 Feb;273(2):114-27.
5. Wang Y, Fei D, Vanderlaan M, Song A. *Biological activity of bevacizumab, a humanized anti-VEGF antibody in vitro*. Angiogenesis 7:335-345 (2004).

SYMBOLS ON LABEL

	Lot number		Temperature limitation
	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.

The cells included in the *iLite*[®] mVEGF (+) Target Assay Ready Cells are a stable transfected cell line of human origin classified as a Class 1 Genetically Modified Microorganism. This is based on the conclusion

PROPRIETARY INFORMATION

that neither insert nor vector add anything to the biosafety level since the cells cannot produce active virus. 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 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.

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.