

## ***iLite***<sup>®</sup> hCG Assay Ready Cells

REF: BM4080

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

### **DESCRIPTION**

*iLite*<sup>®</sup> hCG Assay Ready Cells are human embryonic kidney HEK293<sup>1</sup> cells which have been genetically engineered and optimized to be responsive to human chorionic gonadotropin (hCG), 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 control of a constitutive promoter.

### **CONTENT**

>250 µL of Assay Ready Cells suspended in cryoprotective medium from Amsbio (Cat. No 11910).

### **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 least at -80°C or at lower 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 – note that delayed addition of the diluted cell suspension to the plate might cause a shift in EC50 value.

### **BACKGROUND**

Human chorionic gonadotropin (hCG) is a heterodimeric glycoprotein hormone. The larger beta subunit is specific for hCG while the smaller alpha subunit is identical to the alpha subunit of luteinizing hormone (LH), follicle-stimulating hormone (FSH), thyroid-stimulating hormone (TSH). Both hCG and LH binds to the common G-protein-coupled transmembrane Lutropin-choriogonadotropin hormone receptor (LHCGR), present mainly in ovary and testis, but also in uterus and breast (1).

In men and non-pregnant women, hCG levels are low, but at the beginning of pregnancy, hCG is upregulated which stimulates the production of progesterone in the corpus luteum. In addition, hCG has been found to be expressed by several tumors, influencing tumor formation and metastatic growth, and therefore been suggested as a prognostic biomarker in certain malignancies (2).

Clinically, gonadotropins are part of fertility treatments, hCG is provided under several brand names ex., Pregnyl, Ovitrelle and Menopur. hCG is either extracted from the urine of pregnant women or produced using recombinant DNA technology (3). The assessment of factors influencing the hCG - LHCGR-receptor interaction such as neutralizing antibodies or other antagonists is of high importance (4,5).

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

**APPLICATION**

The *iLite*<sup>®</sup> platform offers a cell-based assay that enables the study of hCG, its receptor and their interaction.

The *iLite*<sup>®</sup> hCG Assay Ready Cells can be used for the quantification of hCG activity, or neutralizing antibody response against hCG in test samples, including human serum.

Application Notes for the following assays are available:

- Quantification of functional hCG (LABEL-DOC-0466)
- Quantification of hCG inhibitor (LABEL-DOC-0467)

**REFERENCES**

1. Nwabuobi C et al. hCG: *Biological Functions and Clinical Applications*. Int J Mol Sci. 2017 Sep 22;18(10).
2. Kölbl AC et al. *The importance of hCG in human endometrial adenocarcinoma and breast cancer*. Int J Biol Markers. 2018 Jan;33(1):33-39.
3. Riccetti L et al. *Heterogeneous hCG and hMG commercial preparations result in different intracellular signalling but induce a similar long-term progesterone response in vitro*. Mol Hum Reprod. 2017 Oct 1;23(10):685-697.
4. Morte C et al. *Assessment of the immunogenicity of gonadotrophins during controlled ovarian stimulation*. Am J Reprod Immunol. 2017 Sep;78(3).
5. Kara E et al. *Modulation of Gonadotropins Activity by Antibodies*. Front Endocrinol (Lausanne). 2019 Feb 18;10:15.

**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.

*iLite*<sup>®</sup> hCG Assay Ready Cells are a stably transfected cell line of human origin classified as a Class 1 Genetically Modified Microorganism. *iLite*<sup>®</sup> Assay Ready Cells 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.

**PROPRIETARY INFORMATION**

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