

## PRODUCT SPECIFICATIONS

Date: 2014-08-04

<b>PRODUCT NAME</b>	: Anti-hCG beta 5011 SPRN-1
<b>PRODUCT SPECIFICITY</b>	: Antibody recognizes human Chorionic Gonadotropin and its free beta chain
<b>PRODUCT CODE</b>	: 100009
<b>PRODUCT BUFFER</b>	: 29 mM citrate, 142 mM phosphate, pH 6.5, 0.9 % NaCl, 0.1 % NaN <sub>3</sub> as a preservative
<b>SHELF LIFE AND STORAGE</b>	: 24 months from manufacturing at 2-8 °C
<b>ANALYTE DESCRIPTION</b>	: Human chorionic gonadotropin (hCG) is a glycoprotein hormone produced in pregnancy by the developing embryo soon after conception and later by the syncytiotrophoblast (part of the placenta). Its role is to prevent the disintegration of the corpus luteum of the ovary and thereby maintain progesterone production that is critical for a pregnancy in humans. Early pregnancy testing, in general, is based on the detection of hCG. hCG is produced also by some tumors, but it is not known whether this production is a contributing cause or an effect of tumorigenesis.

### PARAMETERS TESTED FROM EACH LOT

<b>PRODUCT APPEARANCE</b>	: Clear liquid
<b>PRODUCT CONCENTRATION</b>	: 1.00 mg/ml (+/- 10 %)
<b>PRODUCT ACTIVITY</b>	: 80-120 % compared to reference in an IFMA-test
<b>IEF-RANGE</b>	: 4.7 - 5.5
<b>PURITY</b>	: ≥ 95 %

### PARAMETERS DETERMINED ONLY DURING PRODUCT R&D PHASE

<b>CLASS AND SUBCLASS</b>	: IgG <sub>1</sub>
<b>ASSOCIATION CONSTANT</b>	: hCG: $2.4 \times 10^6$ and hCGβ: $1.9 \times 10^6$
<b>DISSOCIATION CONSTANT</b>	: hCG: $4.4 \times 10^{-4}$ and hCGβ: $1.1 \times 10^{-3}$
<b>AFFINITY CONSTANT hCG</b>	: KA = $5.5 \times 10^9$ 1/M; KD = $1.8 \times 10^{-10}$ M (= 0.18 nM)
<b>AFFINITY CONSTANT hCGβ</b>	: KA = $1.8 \times 10^9$ 1/M; KD = $5.7 \times 10^{-10}$ M (= 0.57 nM)
<b>DETERMINATION METHOD</b>	: SPR analysis (ProteOn XPR36)
<b>ANTIGEN</b>	: hCG (Scripps CO714 lot.2430801); hCG-beta (Scripps CO914 lot.2310001)
<b>CROSS-REACTIVITIES</b>	: No cross-reactivity with hCG beta core fragment. Others not tested.

**EPITOPE** : Beta-chain as described in Berger et.al. (2013)

Two antibodies binding to the same, or closely located epitopes cannot be used as a pair in a sandwich assay.

PAIR RECOMMENDATIONS	SOLID	LABEL
	5011	5004, 5006, 5008, 5014
	5014	5011
	5011	6601 ( $\alpha\beta$ -pair)

Please note that pair recommendations are based on results obtained in our laboratory. Equally good results may be obtained using other pairs and therefore these recommendations should be taken only as a directive.

**MISCELLANEOUS** : -

**REFERENCES** : Berger, P., Paus, E., Hemken, P.M., Sturgeon, C., Stewart, W.W., Skinner, J.P., Harwick, L.C., Saldana, S.C., Ramsay, C.S., Rupprecht, K.R., Olsen, K.H., Bidart, J.M. and Stenman, U.H. (2013) Candidate epitopes for measurement of hCG and related molecules: the second ISOBM TD-7 workshop. *Tumor Biol.*, 34: 4033-4057.

### Legal disclaimer

MedixMAB monoclonal antibodies meet their specifications if transported, stored and used according to the instructions for use. See also separate *Notes on use and storage of monoclonal antibodies*. If not otherwise agreed in writing all products are sold under *General Delivery Terms*. Other terms may apply if MedixMAB monoclonal antibodies are purchased from an official distributor of Medix Biochemica products. MedixMAB is a registered trademark of Medix Biochemica and may not be used or reproduced without Medix Biochemica's written permission. Further information on products and methods is available from medixMAB website and extranet.