

Product specification ANTIBODY

2023-02-22

Anti-h PSA 8311 SPRN-1

Product overview

Catalog number 100103

Specificity Antibody recognizes human prostate-specific antigen

Description Monoclonal mouse antibody, cultured *in vitro* under conditions free from

animal-derived components.

Product buffer solution 37 mM citrate, 125 mM phosphate, pH 6.0, 0.9 % NaCl, 0.095 % NaN₃ as

a preservative

Shelf life and storage 36 months from manufacturing at 2–8 °C

Subclass IgG_{2a}

Analyte description Prostate-specific antigen (PSA) is a protein produced by the cells of the

prostate gland. PSA is present in small quantities in the serum of healthy men, and is often elevated in the presence of prostate cancer and in other prostate disorders. A blood test to measure PSA is considered the most effective test currently available for the early detection of prostate cancer,

but this effectiveness has also been questioned.

Parameters tested on each lot

Product appearance Liquid, may turn slightly opaque during storage

Product concentration 1.0–1.1 mg/ml

Immunoreactivity 80–120 % compared to the reference sample in an FIA test

IEF Profile 6.8–7.5

Purity $\geq 95 \%$

Kinetic parameters

Association rate constant Not Determined (N/D)

Dissociation rate constant N/D

Affinity constant $1 \times 10^{10} \text{ 1/M}$

Determination method Radioimmunoassay (RIA)

Determination antigen PSA, Aalto (Cat AJ 3036, Lot 1133)





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Cross-reactivities PSA/α1-ACT complex 76 % (Scripps Laboratories, Cat P0624, Lot 777464)

Kallikrein < 0.36 % (Biodesign, Cat P0514, Lot 191K)

PAP < 0.36 % (Scripps Laboratories, Cat P0514, Lot 534164 A)

Epitope Residues 3–11, group 6a as described in Rye et al. (1999)

Pair recommendations

		DETECTION			
		8301	8311	8312	8313 (free PSA)
CAPTURE	8301	-	+	+	+
	8311	+	-	-	+
	8312	+	-	-	+
	8313 (free PSA)	+	+	+	-

Please note that pair recommendations are based on results obtained by our laboratory. Equally good results may be obtained using other pairs and therefore these recommendations are only indicative.

Platforms tested FIA

Antigens tested Native PSA antigen, Lee Biosolutions 497-11 and 497-17, and native PSA-ACT

complex, Lee Biosolutions 498-11.

Product stability TEMPERATURE, TIME RESULT

 -70 °C, 21 days
 N/D

 -20 °C, 21 days
 OK

 +4 °C, 21 days
 OK

 +30 °C, 21 days
 OK

 +35 °C, 21 days
 OK

 +45 °C, 7 days
 OK

Stability testing is performed in the product buffer to see whether different temperatures affect the antigen binding, charge or composition of the antibody. Please note that the shelf life given on the first page is based on real time stability testing at 2–8 °C in the product buffer.

Miscellaneous Clone 8311 reacts with non-reduced and reduced intact PSA but not with reduced

PSA fragments (Rye et al., 1999). In the same study affinities for free-PSA and PSA-ACT-complex were, 1.7 x 10^{-10} mol/l and 1.55 x 10^{-10} , respectively. They also noted that antibodies binding to epitope group 6 form a good pair with antibodies from groups 1 and 3. Clone 8311 cross-reacts with human kallikrein-2 (Black,

1999b) and can be used to develop a hK2-assay.

References Black, M.H., Grass, C.L., Leinonen, J., Stenman, U-H. and Diamandis, E.P.,

(1999a) Characterization of monoclonal antibodies for prostate-specific antigen and development of highly sensitive free prostate-specific antigen assays. Clin.

Chem., 45(3):347-354

Black, M.H., Magklara, A., Obiezu, C.V., Melegos, D.N. and Diamandis, E.P., (1999b) Development of an ultrasensitive immuoassay for human glandular





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kallikrein with no cross-reactivity from prostate-specific antigen. Clin. Chem., 45(6):790-799

Ferguson, R.A., Yu, H., Kalyvas, M., Zammit, S. and Diamandis, E.P., (1996) Ultrasensitive detection of prostate-specific antigen by time-resolved immunofluorometric assay and the Immulite® immunochemiluminescent third-generation assay: potential applications in prostate and breast cancer. Clin. Chem., 42(5):675-684

Magklara, A., Scorilas, A., López-Otín, C., Vizoso, F., Ruibal, A. and Diamandis, E.P., (1999) Human glandular kallikrein in breast milk, amniotic fluid, and breast cyst fluid. Clin. Chem., 45(10):1774-1780

Obiezu, C.V., Giltay, E.J., Magklara, A., Scorilas, A., Gooren, L.J.G., Yu, H., Howarth, D.J.C. and Diamandis, E.P., (2000) Serum and urinary prostate-specific antigen and urinary human glandular kallikrein concentrations are significantly increased after testosterone administration in female-to-male transsexuals. Clin. Chem., 46(6):859-862

Rye, P.D., Bormer, O.P. and Paus, E. (guest editors) (1999), ISOBM TD-3 International Workshop on monoclonal antibodies against prostate-specific antigen. Tumor Biol., 20(suppl 1):1-94

