

## Product Information

### Prostate Specific Antigen- $\alpha$ -1- Antichymotrypsin Complex

Product Number **P 3360**  
Storage Temperature  $-20\text{ }^{\circ}\text{C}$

Synonym: PSA-ACT

#### Product Description

Prostate Specific Antigen (PSA), a glycoprotein and member of the kallikrein family, is a serine protease with chymotrypsin-like activity. PSA is present in circulation as free, unbound PSA (fPSA) or as a complex, bound to serum protease inhibitors such as 1-antichymotrypsin (ACT) or 2-macroglobulin. Studies have shown that immunoassays for serum levels of fPSA alone do not reliably distinguish prostate cancer from benign prostate hyperplasia (BPH). However, the level of PSA-ACT is reportedly higher in men with prostate cancer than in those with BPH. Therefore, the ratio of PSA-ACT to fPSA in patient samples may prove valuable in the diagnosis of prostate cancer.

PSA was isolated from human seminal fluid; ACT was isolated from human plasma.

#### Reagent

PSA-ACT Complex is supplied as a solution in 10 mM sodium acetate, pH 5.6, containing 150 mM sodium chloride and 0.1% sodium azide.

#### Precautions and Disclaimer

Please consult the Material Safety Data Sheet for hazards and safe handling recommendations before working with this material. The product was tested and found to be negative for HIV-1, HIV-2, Hepatitis B, and HCV. In addition, the product contains sodium azide

#### Storage

Store at  $-20\text{ }^{\circ}\text{C}$  for long-term storage. The product may be stored refrigerated at  $2-8\text{ }^{\circ}\text{C}$  for up to one week.

#### Product Profile

Total protein content is determined by absorbance at 280 nm. PSA content determined by Hybritech Tandem-E PSA. The ratio of total protein to PSA is 0.3-0.7.

Purity is  $\geq 99\%$  by SDS-PAGE.

#### References

1. Jung, K., et al., Molecular forms of prostate-specific antigen in serum with concentrations of total prostate-specific antigen  $< 4\text{ }\mu\text{g/L}$ : are they useful tools for early detection and screening of prostate cancer, *Int. J. Cancer*, **93**, 759-65 (2001).
2. Hara, I., et al., Value of the serum prostate-specific antigen- $\alpha$ 1-antichymotrypsin complex and its density as a predictor for the extent of prostate cancer, *BJU International*, **88**, 53-57 (2001).
3. Lein, M., et al., A multicenter clinical trial on the use of alpha-1-chymotrypsin-prostate-specific antigen in prostate cancer diagnosis, *Prostate*, **47**, 77-84 (2001).
4. Bjork, T., et al., Similar rates of exponential decrease in serum concentrations of free prostate-specific antigen (PSA), PSA complexed to alpha-1-antichymotrypsin, and human glandular kallikrein 2 (hK2) in prostate cancer patients treated with GnRH-analogues, *Prostate*, **47**, 14-20 (2001).
5. Lein, M., et al., Comparison of the clinical validity of free prostate-specific antigen, alpha-1 antichymotrypsin-bound prostate-specific antigen and complexed prostate-specific antigen in prostate cancer diagnosis, *Eur. Urol.*, **39**, 57-64 (2001).

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