

PRSS2

Trypsinogen-2 (PRSS2) is a 25 kDa pancreatic proteinase, encoded by the *PRSS2* gene. PRSS2 are secreted at high concentrations into pancreatic fluid, but a small proportion escapes into the blood circulation. PRSS2 exists in pancreas with inactive zymogen, which is activated by enterokinase.

When pancreatitis were damaged, the concentration of PRSS2 is high in the blood circulation. Because of PRSS2 relatively small size, PRSS2 are readily filtered through the glomeruli. For unknown reasons, the tubular reabsorption of PRSS2 is lower, and consequently, the urinary concentration of PRSS2 is high. Measurement of urinary PRSS2 is considered useful in diagnosing acute pancreatitis and assessing its severity.

Anti-PRSS2 monoclonal antibodies

Four latest anti-PRSS2 monoclonal antibodies have been developed by CUSAg. On the LFIA, multiple clinical samples have been respectively tested by self-made anti-PRSS2 antibody and high-quality anti-PRSS2 antibody, the results had good correlation between them. This product is qualified for the application of IVD assay development.

PROPERTIES	SPECIFICATION
Target species	Human
Host animal	Mice Balb/c
Cell line used for fusion	Sp2/0
Immunogen	Human PRSS2
Purification method, purity	Protein G affinity chromatography, $\geq 90\%$ (SDS-PAGE)
Presentation	MAB solution in PBS with 15 mM NaN_3 (pH 7.4)
Application	ELISA, LFIA and other possible application
Catalog Number	CSB-DA441BmN①
	CSB-DA441BmN②
	CSB-DA441BmN③
	CSB-DA441BmN④

Note: Product contains sodium azide as a preservative. Although the amount of sodium azide is very small, appropriate care must be taken when handling this product.

1. Linearity

The PRSS2 test requirements consists of a pad containing monoclonal anti-PRSS2 antibodies conjugated to colloidal gold, a nitrocellulose strip containing a test line which contains monoclonal anti-PRSS2 antibodies, and a control line which contains polyclonal anti-mouse IgG antibodies. The best selected MAb combinations for the development of semi-quantitative human PRSS2 immunoassays are (capture-detection) respectively:

Mab combination A : CSB-DA441BmN②-CSB-DA441BmN①

Mab combination B : CSB-DA441BmN③-CSB-DA441BmN④

Mab combination C : CSB-DA441BmN④-CSB-DA441BmN③

Their measuring range is 20-4000 ng/mL.

2. Clinical analysis

The semi-quantitative assays (A,B,C and diagnostic antibodies) for the detection of PRSS2 were developed. 17 samples (2 urines and 15 serum) from donors were semi-quantitatively analyzed by them. There was 100% agreement between the high-quality diagnostic anti-PRSS2 antibodies and immunoassay using CUSAg anti-PRSS2 antibodies (A,B,C) for the 17 samples.

Table1. Clinical comparison of diagnostic anti-PRSS2 antibody and immunoassay using CUSAg anti-PRSS2 antibodies (A ,B,C).

samples(n)	2 (urines)	8	6	1
Diagnostic antibody	-	+	++	+++
A	-	+	++	+++
B	-	+	++	+++
C	-	+	++	+++

“+”: general positive, “++”: positive, “+++”: intense positive. “-”: negative.

“A,B,C”: immunoassay using CUSAg anti-PRSS2.