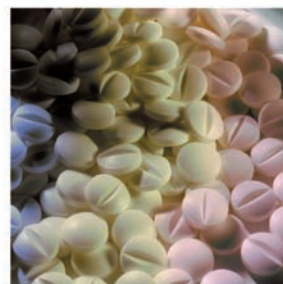


ImmunoCAP[®]
Is it allergy?

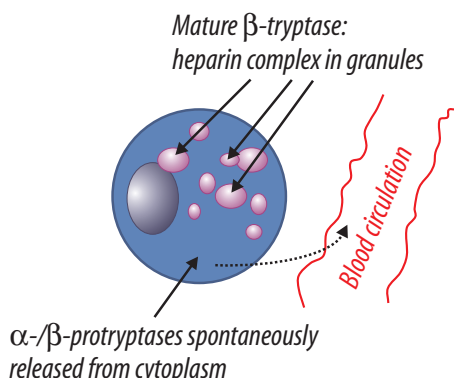


ImmunoCAP[®] Tryptase
In anaphylaxis

Phadia

What is Tryptase?

Tryptase is a specific Mast Cell marker

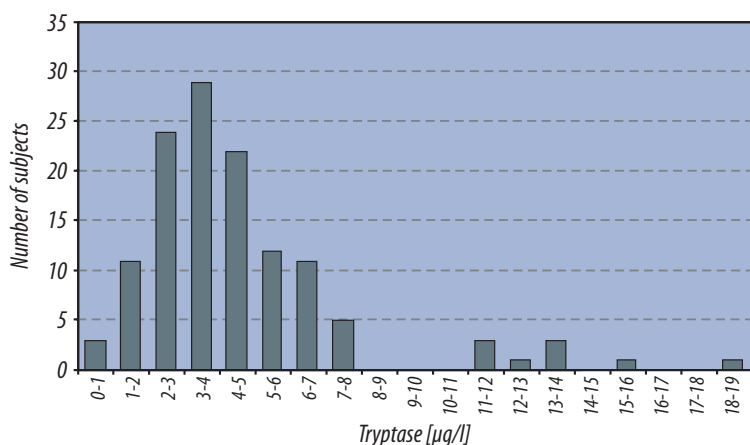


Tryptase is the most abundant protein in mast cells.

- Baseline level; Concentration of proforms of tryptase reflects the number of mast cells
- Increased levels of mature β -tryptase indicates mast cell activation

ImmunoCAP Tryptase measures the total tryptase, i.e. all proforms of α -tryptase and β -tryptase as well as mature β -tryptase (1, 2).

Normal Tryptase range



Tryptase levels

Tryptase in healthy individuals

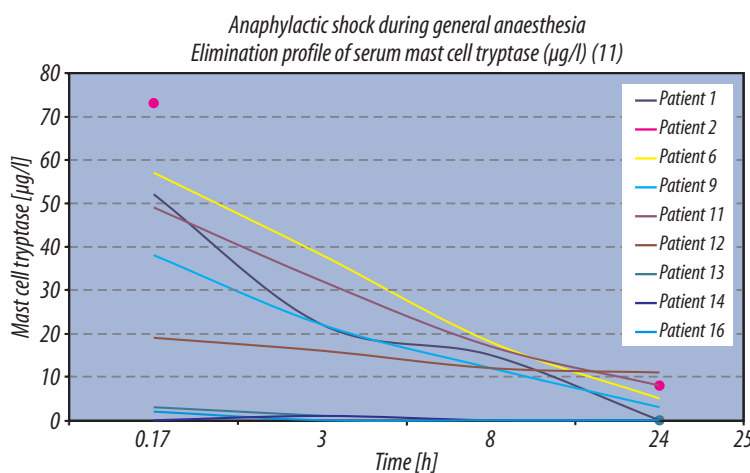
A study(a) with 126 apparently healthy individuals (61 males and 65 females), without evidence of mast cell stimulation, was performed.

The age range was: 12-61 years

Geometric mean: 3.8 $\mu\text{g/l}$

95 upper percentile: 11.4 $\mu\text{g/l}$

Tryptase levels after anaphylaxis



Timing of blood samples (3)

- ◆ 1st sample within 15 minutes up to 3 hours after the onset of the symptoms
- ◆ 2nd sample after 24-48 hours to confirm the return to baseline levels
- ◆ 3rd sample after 1-2 weeks if incidences of mastocytosis or other causes to elevated basal levels are suspected

Other suggested sampling schemes may be recommended in local guidelines in different countries.

What is the clinical utility of Tryptase in anaphylaxis?

Confirmation of anaphylaxis

Sudden increase in Tryptase levels which then return to baseline within ~48 hours indicate Mast cell activation and is a tool to confirm an anaphylactic reaction. Peak levels may range from 20 µg/l to more than 200 µg/l (1-6).

During/after anaphylactic reactions

When severe reactions occur e.g after an insect sting, during venom SIT, during surgery and after ingestion of foods, tryptase should be measured in samples taken during and after the episode.

The magnitude of increased tryptase are more pronounced after IgE mediated reactions than after non-immunological reactions, and are more common after parenteral than oral or inhaled introduction of mast cell activation substances.

ImmunoCAP® Tryptase

In anaphylaxis the triggering agent should be identified.

Allergens commonly implicated in anaphylaxis are insect venoms, drugs, latex and foods.

Specific IgE antibody testing aids in the diagnosis of the triggering cause.

ImmunoCAP® allergens: Examples			
Code	Name	Code	Name
c1	Penicilloyl G	f13	Peanut
c2	Penicilloyl V	f24	Shrimp
c5	Ampicilloyl	i1	Honey bee
c6	Amoxicilloyl	i3	Common Wasp
c7	Cefaclor	i4	Paper wasp
c8	Chlorhexidine	i70	Fire ant
c202	Suxamethonium	i75	European hornet
k82	Latex	i77	European paper wasp

Post mortem

Post mortem measurement of increased levels of mature β-tryptase can be an additional diagnostic tool when an anaphylactic reaction is suspected as cause of death (7, 8).

Post mortem samples should be taken within 48 hours from time of death.

As a risk marker of anaphylaxis

Elevated baseline Tryptase – risk for severe reactions

Baseline levels of total Tryptase in serum reflects number of mast cells.

Elevated baseline levels (>10 µg/l) reflects an increased number of mast cells and indicates an increased risk for severe reactions, especially in patients who previously have had severe reactions (1, 2, 6, 9).

Clinical utility of ImmunoCAP® Tryptase

Risk marker for severe reactions

- ◆ elevated baseline levels indicate increased risk for severe reactions (1-3)
 - in insect and drug allergy
 - before and during venom SIT (Specific ImmunoTherapy)

Anaphylactic reactions

- ◆ transient elevated levels
 - confirming mast cell activation
 - post mortem diagnosis

Marker for haematological neoplastic disorders and mastocytosis

- ◆ persistent elevated / increasing tryptase levels indicate haematological malignances
 - diagnosis and prognosis
 - follow up of therapy

References

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Read more:

- 52-5108-31 ImmunoCAP® Tryptase Product Information.
- 52-5108-33 Clinical Utility of ImmunoCAP® Tryptase.
- 52-5108-32 ImmunoCAP Tryptase in Venom SIT.

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