

ImmunoCAP®
Is it allergy?



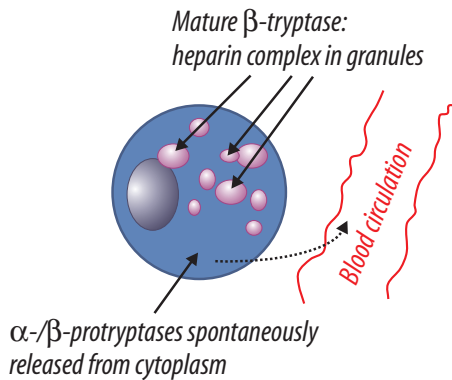
ImmunoCAP® Tryptase

In venom SIT

Phadia

What is Tryptase?

Tryptase is a specific Mast Cell marker

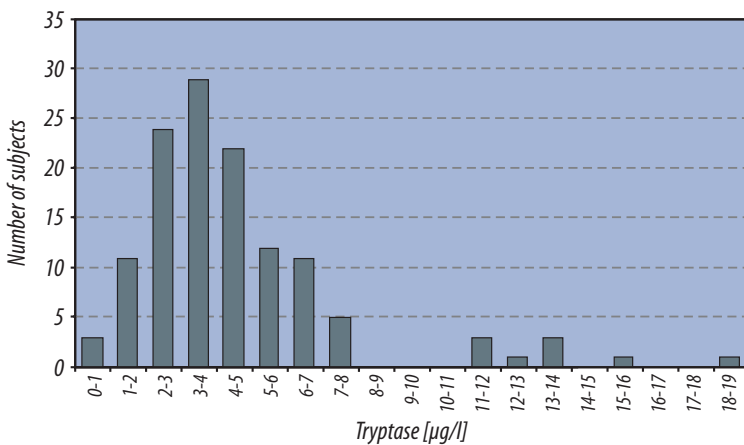


Tryptase is the most abundant protein in mast cells.

- 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 (4, 5).

Normal Tryptase range



Tryptase levels

Tryptase in healthy individuals

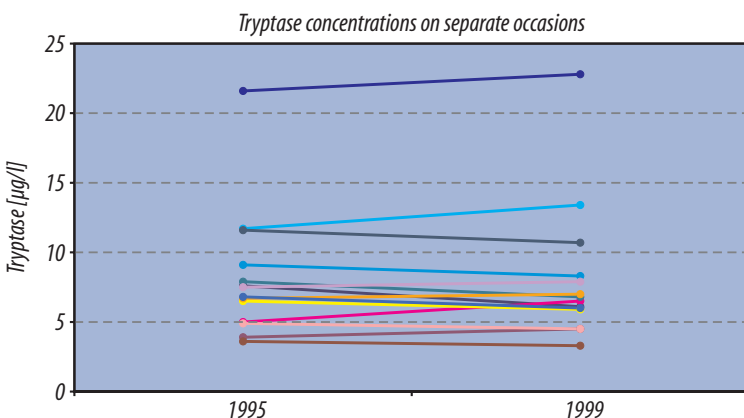
A study(a) with 126 apparently healthy individuals (61 males and 65 females), without evidence of mast cell stimulation, was performed.

The age range was: 12-61 years

Geometric mean: 3.8 µg/l

95 upper percentile: 11.4 µg/l

Baseline levels stable over time



Each individual has its own unique baseline level, which is rather stable over time under normal conditions.

What is the clinical utility of Tryptase in venom SIT?

Before start of venom SIT

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 at insect stings, and at venom SIT injections.

Tryptase and Specific IgE as tools in management of venom SIT patients

Tryptase testing to identify patients at risk.

The EAACI recommends that Tryptase should be measured in patients before starting venom SIT.

ImmunoCAP® Tryptase

Specific IgE testing aids in the diagnosis of venom allergy and identification of proper venom for treatment.

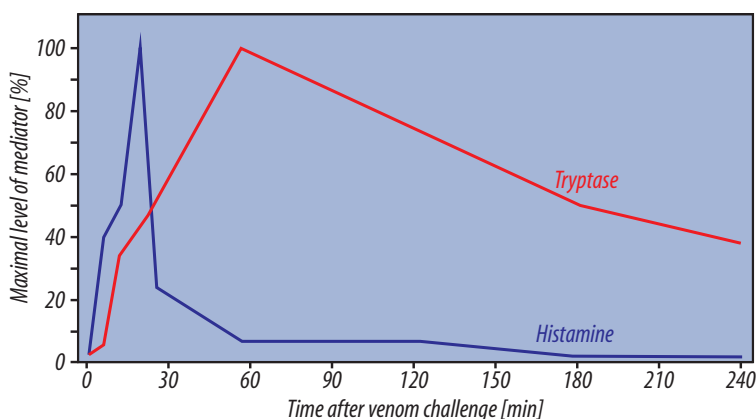
Insects		
Species		Code
Bumblebee	<i>Bombus terrestris</i>	i205
Common wasp (Yellow jacket)	<i>Vespula spp.</i>	i3
European Paper Wasp	<i>Polistes dominulus</i>	i77
European hornet	<i>Vespa crabro</i>	i75
Fire ant	<i>Solenopsis invicta</i>	i70
Honey bee	<i>Apis mellifera</i>	i1
Paper wasp	<i>Polistes spp.</i>	i4
White-faced hornet	<i>Dolichovespula maculata</i>	i2
Yellow hornet	<i>Dolichovespula arenaria</i>	i5

During venom SIT

When severe reactions occur after venom SIT administration serum tryptase should be measured.

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.

Tryptase levels after anaphylaxis



Timing of blood samples

- ◆ 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

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

1. Haeberli G, Brönnimann M, Hunziker T and Müller U: Elevated basal serum tryptase and hymenoptera venom allergy: relation to severity of sting reactions and to safety and efficacy of venom immunotherapy. *Clin Exp Allergy* 2003;33:1216-1220.
2. Biló BM, Rueff F, Mosbech H, Bonifazi F, Oude-Elberink JNG & the EAACI Interest Group on Insect Venom Hypersensitivity: Diagnosis of Hymenoptera venom allergy. *Allergy* 2005;60:1339-1349 / EAACI Position Paper <http://www.eaaci.net/media/PDF/D/652.pdf>.
3. Bonifazi F, Jutel M, Biló BM, Birnbaum J, Müller U and the EAACI Interest Group on Insect Venom Hypersensitivity: Prevention and treatment of hymenoptera venom allergy: guidelines for clinical practice. *Allergy* 2005;60:1459-1470 / EAACI Position Paper <http://www.eaaci.net/media/PDF/P/653.pdf>.
4. Schwartz LB: Diagnostic Value of Tryptase in Anaphylaxis and Mastocytosis. *Immunol Allergy Clin N Am* 2006;26:451-463.
5. Caughey GH: Tryptase genetics and anaphylaxis. *J Allergy Clin Immunol* 2006;117(6):1411-1414.

Read more:

- 52-5108-31 ImmunoCAP® Tryptase Product Information.
- 52-5108-33 Clinical Utility of ImmunoCAP® Tryptase.
- 52-8108-34 ImmunoCAP Tryptase in anaphylaxis.

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