Tryptase is an enzyme released from mast cells and is involved in the inflammatory response. It plays a role in different conditions, such as anaphylaxis, asthma, and pancreatic disease. However, the levels of tryptase in the blood can also be elevated in various other conditions, such as amniotic fluid embolism, coeliac disease, food allergy, and systemic mastocytosis.

In the peri-operative period, multiple agents can cause anaphylaxis. These reactions are often dramatic and life-threatening, and it is necessary to quickly identify and manage them. The activation of βII-protryptase involves two proteolytic steps. The first is an autocatalytic intermolecular cleavage, followed by cleavage of the peptide bond between Arg47 and Thr48. This process results in the release of active tryptase.

In a study investigating the prevalence of serum IgE antibodies in patients with different conditions, a significant association was found between specific conditions and elevated tryptase levels. For example, patients with asthma and allergic rhinitis had higher tryptase levels compared to healthy controls. This suggests that tryptase may be a useful biomarker for these conditions, potentially aiding in diagnosis and monitoring of disease progression.

In conclusion, tryptase is an important protein involved in the inflammatory response. Its levels in the blood can be elevated in various conditions, highlighting the importance of understanding its role in disease and developing effective therapeutic strategies.