REVISTA BRASILEIRA DE
HEMATOLOGIA E HEMOTERAPIA

Images in Clinical Hematology

Peroxidase activity in the basophils of *Phrynops geoffroanus* (Testudines: Chelidae)

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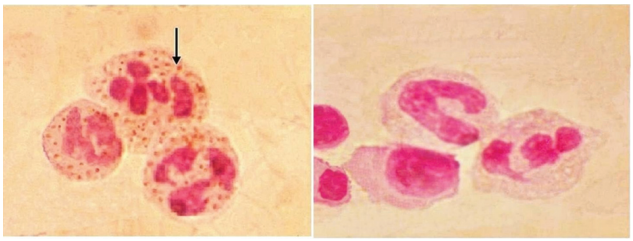

Figure 1. Cytochemical peroxidase method of human blood smears - Left, sample with positive peroxidase activity in neutrophils (arrow). The sample on the right corresponds to a reaction control with a negative response to the peroxidase

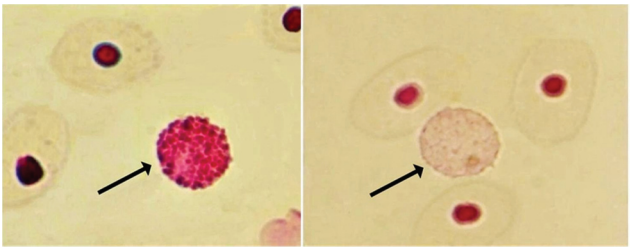

Figure 2. Cytochemical peroxidase method to detect peroxidase activity in blood smears of turtles - on the left with positive basophil peroxidase activity. On the right, basophils unresponsive to enzyme reaction control. Arrows indicate basophils

Peroxidase, present in peroxisomes and lysosomes, belongs to the oxidases and acts as a catalyst for hydrogen peroxide (H_2O_2) and is later decomposed by oxidation of cosubstrates thereby preventing cell damage.[1] The peroxidase technique[2] was applied to blood smears of Phrynops geoffroanus and the results compared with human blood to evaluate the activity and control of the reaction. The human blood film showed markings in neutrophils and phagocytes with many lysosomes and peroxisomes (Figure 1). In blood smears of Phrynops geoffroanus, the markings were on the basophils (Figure 2), that represent 10% to 25% of leukocytes of turtles and have a large number of cytoplasmatic granules[3] suggesting the presence of large amounts of enzymes and organelles such as lysosomes and peroxisomes, possibly associated with their participation in immune reactions. Peroxidase activity is the body's response to harmful environmental actions and serves as a biological marker.

Keywords: *Phrynops geoffroanus; Peroxidase/cytochemistry; Basophils*

Descritores: *Phrynops geoffroanus; Peroxidase/citoquímica; Basófilos*

References

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