

Trypsin Inhibitor from *Tamarindus Indica* L. Seeds Reduces Weight Gain and Food Consumption and Increases Plasmatic Cholecystokinin Levels

Ribeiro, J.A.N.C.¹; Serquiz, A.C.¹; Silva, P.F.S.²; Barbosa, P.B.B.M.¹; Sampaio, T.B.M.³; Oliveira, A.S.¹; Machado, R.J.A.¹; Carvalho, F.M.C.⁵; Maciel, B.L.L.^{5,6}; Uchôa, A.F.¹; Santos, E.A.¹; MORAIS, A.H.A.^{5,6}.

¹Postgraduate Biochemistry Program, Biosciences Center, Federal University of Rio Grande Do Norte, Natal, RN, Brazil; ²Nutrition Course, Center for Health Sciences, Federal University of Rio Grande Do Norte, Natal, RN, Brazil; ³Biology Course, Potiguar University, Natal, RN, Brazil; ⁴Department of Patology, Biosciences Center, Federal University of Rio Grande Do Norte, Natal, RN, Brazil; ⁵Postgraduate Nutrition Program, Center for Health Sciences, Federal University of Rio Grande Do Norte, Natal, RN, Brazil and ⁶Department of Nutrition, Center for Health Sciences, Federal University of Rio Grande Do Norte, Natal, RN.

INTRODUCTION: Obesity is considered an epidemic in the globalized world. As the cost of treating obesity and its associated diseases is high, investments in natural products that may reduce dietary intake and weight gain are needed. Seeds are excellent sources of proteinase inhibitors, some of which may have satietogenic and slimming actions. **OBJECTIVES:** We evaluated the effect of a trypsin inhibitor from *Tamarindus indica* L. seeds on weight gain, food consumption and cholecystokinin levels in Wistar rats. **MATERIAL AND METHODS:** A trypsin inhibitor from *Tamarindus* was isolated using ammonium sulfate (30–60%) following precipitation with acetone and was further isolated with Trypsin-Sepharose affinity chromatography. Analyses were conducted to assess the in vivo digestibility, food intake, body weight evolution and cholecystokinin levels in Wistar rats. Histological analyses of organs and biochemical analyses of sera were performed. **RESULTS AND DISCUSSION:** The trypsin inhibitor from *Tamarindus* reduced food consumption, thereby reducing weight gain. The in vivo true digestibility was not significantly different between the control and *Tamarindus* trypsin inhibitor treated groups. The trypsin inhibitor from *Tamarindus* did not cause alterations in biochemical parameters or liver, stomach, intestine or pancreas histology. Rats treated with the trypsin inhibitor showed significantly elevated cholecystokinin levels compared with animals receiving casein or water. **CONCLUSION:** The results indicate that the isolated trypsin inhibitor from *Tamarindus* reduces weight gain by reducing food consumption, an effect that may be mediated by increased cholecystokinin. Thus, the potential use of this trypsin inhibitor in obesity prevention and/or treatment should be evaluated.

KEYWORDS: Tamarind; Satiety; Slimming; Obesity; CCK.

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