

ABSTRAK

STUDI DISTRIBUSI RESIDU GULA T-DISAKARIDA ($Gal\beta(1-3)GalNAc$) PADA SALURAN INTESTINAL SUGAR GLIDER (*Petaurus breviceps*)

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Sugar glider (*Petaurus breviceps*) merupakan jenis mamalia marsupial yang tersebar di Kepulauan Maluku, Papua, Papua Nugini, Australia, dan Pulau Tasmania. Sumber makanan *sugar glider* di alam meliputi getah tumbuhan, nektar, hingga serangga. Tujuan dari penelitian ini adalah untuk mengetahui profil distribusi residu gula glikokonjugat T-disakarida ($Gal\beta(1-3)GalNAc$) pada saluran intestinal *sugar glider*. Penelitian ini menggunakan sampel saluran intestinal dari dua ekor *sugar glider* jantan dewasa. Sampel diproses dengan metode parafin kemudian diwarnai menggunakan pengecatan Hematoksin-Eosin (HE) dan histokimia *Peanut Agglutinin* (PNA). Pengamatan hasil diamati dengan mikroskop cahaya dan pengambilan gambar dilakukan menggunakan *OptiLab Viewer*. Data yang diperoleh dianalisis secara kualitatif dengan 4 kategori reaktivitas, yaitu negatif (-), lemah (+), cukup (++), dan kuat (+++). Hasil penelitian ini menunjukkan bahwa *Petaurus breviceps* memiliki reaktivitas ikatan lektin PNA lemah hingga kuat pada *striated border* organ duodenum, jejunum, ileum, dan rektum. Sel Goblet pada kelenjar Lieberkühn ileum, sekum, dan kolon memiliki reaktivitas ikatan lektin lemah hingga cukup. Sel Goblet epitelial rektum memiliki reaktivitas ikatan lektin lemah. Situs dan reaktivitas ikatan lektin PNA bervariasi pada berbagai organ yang menandakan variasi distribusi glikokonjugat T-disakarida ($Gal\beta(1-3)GalNAc$) pada saluran intestinal *sugar glider*.

Kata kunci: glikokonjugat, lektin, *peanut agglutinin*, saluran intestinal, *sugar glider*.

ABSTRACT

DISTRIBUTION STUDY OF T-DISACCHARIDE SUGAR RESIDUES (Gal β (1-3)GalNAc) IN THE INTESTINAL TRACT OF SUGAR GLIDER (*Petaurus breviceps*)

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Sugar glider (*Petaurus breviceps*) is a type of marsupial mammal that can be found in Moluccan Islands, Papua, Papua New Guinea, Australia, and Tasmania Island. Sugar glider food sources in nature includes plant sap, nectar, and insects. The purpose of this study was to determine the distribution profile of the T-disaccharide glycoconjugate sugar residue (Gal β (1-3)GalNAc) in the sugar glider intestinal tract. Intestinal tract samples from two adult male sugar glider were processed with paraffin method and then stained with Hematoxylin-Eosin (HE) and Peanut Agglutinin (PNA) histochemistry staining. The results were observed with a light microscope and the images were taken using OptiLab Viewer. The data obtained were analyzed qualitatively with 4 categories of reactivity, namely negative (-), weak (+), moderate (++), and strong (+++). This study showed that *Petaurus breviceps* had weak to strong PNA lectin reactivity on the striated border of duodenum, jejunum, ileum, and rectum. Goblet cells in the Lieberkühn glands of ileum, cecum, and colon have weak to moderate lectin binding reactivity. Epithelial Goblet cells of rectum have weak lectin binding reactivity. PNA lectin sites and reactivity vary in different organs which indicates a variation in the distribution of T-disaccharide glycoconjugate (Gal β (1-3)GalNAc) in the sugar glider intestinal tract.

Keywords: glycoconjugate, lectin, peanut agglutinin, intestinal tract, sugar glider.