

**STUDI DISTRIBUSI RESIDU GULA *N* ACETYLGALACTOSAMINE
(GalNAc) PADA SALURAN INTESTINAL *SUGAR GLIDER*
(*Petaurus breviceps*)**

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ABSTRAK

Sugar glider (*Petaurus breviceps*) merupakan hewan marsupial kecil yang berasal dari Australia, Papua Nugini, dan pulau-pulau sekitarnya, dan sekarang banyak dipelihara manusia sebagai hewan peliharaan eksotik. *Petaurus breviceps* merupakan hewan pemakan segala seperti serangga, eksudat tumbuhan, biji-bijian, kacang-kacangan, sereal, hingga makanan manis seperti gula batu. Penelitian ini dilakukan untuk mengetahui residu gula glikokonjugat, khususnya *N-acetylgalactosamine*, pada saluran intestinal *sugar glider*.

Penelitian ini menggunakan dua ekor *sugar glider* jantan dewasa. Sampel penelitian yang diambil adalah duodenum, jejunum, ileum, sekum, kolon, dan rektum yang difiksasi *Phosphate Buffer Saline* formalin 10%. Jaringan diproses dengan metode paraffin dan dipotong setebal 8 µm. Pewarnaan yang digunakan adalah hematoksilin eosin (HE) dan lektin *soybean agglutinin* (SBA). Pengamatan dilakukan dengan mikroskop cahaya dan kemudian diambil gambarnya menggunakan *OptiLab Viewer*. Data yang diperoleh dianalisis secara deskriptif kualitatif.

Hasil menunjukkan sel Goblet di vili usus *Petaurus breviceps* menunjukkan reaksi negatif hingga positif kuat. Sel Goblet di kriptek sekum apeks menunjukkan reaksi positif lemah-cukup yang berarti sel-sel tersebut memiliki sedikit-cukup residu terminal gula *N-acetylgalactosamine* (GalNAc). Pola reaktivitas sel Goblet di mukosa usus *sugar glider* terhadap lektin SBA memiliki perbedaan dengan mamalia lainnya.

Kata kunci: *soybean agglutinin*, lektin, residu gula, *sugar glider*, saluran intestinal

**DISTRIBUTION STUDY OF SUGAR RESIDUE
N ACETYLGALACTOSAMINE (GalNAc) IN INTESTINAL TRACT OF
SUGAR GLIDER (*Petaurus breviceps*)**

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ABSTRACT

Sugar gliders (*Petaurus breviceps*) are small marsupials originating from Australia, Papua New Guinea, and the surrounding islands. These animals are now kept by humans as exotic pets. *Petaurus breviceps* is an animal that eats everything such as insects, plant exudates, seeds, nuts, cereals, to sweet foods such as rock sugar. This study was conducted to determine the sugar residue of glycoconjugate, especially N-acetylgalactosamine, in the intestinal tract of sugar gliders.

This study used two male adult sugar gliders. The samples taken were the duodenum, jejunum, ileum, cecum, colon, and rectum which were fixed with 10% formalin phosphate buffer saline. The tissue was processed by paraffin method and cut into 8 μ m thickness. The staining used was hematoxylin eosin (HE) and lectin soybean agglutinin (SBA). Observations were made with a light microscope and then the image was taken using the OptiLab Viewer. The data obtained were analyzed descriptively qualitatively.

The results showed that Goblet cells in the intestinal villi of *Petaurus breviceps* showed negative to strong positive reactions. Goblet cells in the crypt of cecum apex showed weak to moderate positive reaction, which means the cells have slight-enough sugar terminal residues of N-acetylgalactosamine (GalNAc). The reactivity pattern of the sugar gliders' intestinal mucosa Goblet cells to SBA lectin differs from that of other mammals.

Keywords: soybean agglutinin, lectin, sugar residue, sugar glider, intestinal tract