

## ABSTRAK

### **STUDI DISTRIBUSI RESIDU GULA *ALPHA-L-FUCOSE* PADA SALURAN INTESTINAL *SUGAR GLIDER* (*Petaurus breviceps*) MENGGUNAKAN PEWARNAAN LEKTIN *ULEX EUROPAEUS* *AGGLUTININ-I* (UEA-I)**

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*Sugar glider* (*Petaurus breviceps*) merupakan salah satu satwa endemik Indonesia yang populer dijadikan peliharaan eksotik. Peningkatan popularitas *sugar glider* perlu disertai pendalaman pengetahuan mengenai anatomi *sugar glider*. Penelitian ini bertujuan untuk mengetahui distribusi residu gula  $\alpha$ -L-fukosa pada intestinum *sugar glider* normal. Penelitian ini menggunakan dua ekor *sugar glider* jantan dewasa. Sampel yang diambil berupa duodenum, jejunum, ileum, sekum, kolon, dan rektum. Jaringan difiksasi dalam larutan *Phosphate Buffer Saline* formalin 10% dan diproses menggunakan metode paraffin. Jaringan dipotong setebal 8  $\mu$ m dan dilakukan pengecatan histokimia menggunakan lektin *Ulex europaeus agglutinin-I* (UEA-1). Pengamatan dilakukan menggunakan mikroskop cahaya. Pengambilan gambar menggunakan aplikasi *OptiLab Viewer*. Data dianalisis secara deskriptif kualitatif. Hasil pengecatan lektin UEA-1 pada duodenum positif lemah. Jejunum bereaksi negatif. Ileum menunjukkan reaksi positif sedang pada *brush border* vili yang heterogen. Sekum bereaksi sedang pada sel Goblet kelenjar. Reaksi lektin pada kolon tergolong lemah pada sel Goblet epitelial dan sedang pada sel Goblet kelenjar. Rektum bereaksi sedang pada sel Goblet epitelial dan *brush border*. Lektin UEA-1 menunjukkan distribusi residu gula  $\alpha$ -L-fukosa yang beragam pada saluran intestinal *Petaurus breviceps*.

**Karta kunci:** Alpha-L-fukosa, lektin, saluran intestinal, *sugar glider*, *Ulex europaeus agglutinin*

## ABSTRACT

### ALPHA-L-FUCOSE SUGAR RESIDUE DISTRIBUTION STUDY IN THE INTESTINAL TRACT OF SUGAR GLIDER (*Petaurus breviceps*) USING ULEX EUROPAEUS AGGLUTININ (UEA-1) LECTIN STAINING

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The sugar glider is one of Indonesia's endemic animals which is popular as an exotic pet. The increasing popularity of sugar gliders needs to be accompanied by a deepening of knowledge about sugar glider anatomy. This study aims to determine the distribution of  $\alpha$ -L-fucose sugar residues in the intestinal tract of normal sugar gliders. This study used two adult male sugar gliders. Samples taken were the duodenum, jejunum, ileum, cecum, colon, and rectum. The tissues were fixed in 10% formalin phosphate buffer saline and processed using the paraffin method. The tissues were cut in 8  $\mu$ m thickness and histochemical staining was performed using Ulex Europaeus Agglutinin-1 (UEA-1) lectin. Observations were done using a light microscope. Pictures were taken using OptiLab Viewer. The data obtained were analyzed descriptively qualitatively. The results of the UAE-1 lectin staining on the duodenum were weakly positive. Jejunum reacted negatively. The ileum showed a moderately heterogeneous positive reaction to the brush border of the villi. The cecum reacts moderately to the glandular Goblet cells. The lectin reaction in the colon is weak in epithelial Goblet cells and moderate in glandular Goblet cells. The rectum reacts moderately to the epithelial Goblet cells and the brush border. The UEA-1 lectin shows a diverse distribution of  $\alpha$ -L-fucose sugar residues in the intestinal tract of *Petaurus breviceps*.

**Key words:** Alpha-L-fucose, intestinal tract, lectin, sugar glider, Ulex europaeus agglutinin