

ABSTRACT

**Study of Type and Distribution of Mucopolysaccharide
in the Gastric Glands of Sugar Glider (*Petaurus breviceps*)
using Alcian Blue pH of 2.5 - Periodic Acid Schiff Stain (AB pH pf 2,5-PAS)**

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Sugar gliders (*Petaurus breviceps*) is an exotic animal scattered in several countries such as Indonesia, Papua New Guinea, and Australia. Based on the International Union for Conservation of Nature and Natural Resources (IUCN) in 2015, the conservation status of sugar gliders are classified as least concern (LC). Sugar gliders are omnivorous animals that have a major dietary component such as arthropods, *Acacia sp.* tree sap, liquid of eucalyptus, and nectar. Food composition is related to the type of mucopolysaccharides produced in the stomach of sugar gliders. This study was conducted to determine the type and distribution of mucopolysaccharides in the gastric glands of sugar glider.

Four sugar gliders were used as research material. The samples collected were gastric which consists of cardiac, fundus, and the pylorus area. The gastric tissues were processed using paraffin method, then they were cut with a thickness of 8 μm . Tissues on coated slides were stained using Alcian Blue pH of 2,5-Periodic Acid Schiff stain (AB pH of 2,5-PAS).

The staining showed positive results in some parts of the surface epithelial cells and gland cells in the neck area of the cardia, fundus, as well as pyloric area with. However, the staining on the glandular cells in the body region and basal region showed negative results. It can be concluded that distribution of mucopolysaccharides on the epithelial cells surface and gland cells in the neck area is neutral mucopolysaccharides as indicated by the red-magenta color.

Keywords: Alcian Blue pH of 2,5-Periodic Acid Schiff (AB pH of 2,5-PAS), stomach, mucopolysaccharide neutral, sugar glider.

INTISARI

**Studi Tipe Dan Distribusi Mukopolisakarida
pada Kelenjar Gastrika *Sugar Glider* (*Petaurus breviceps*)
dengan Pewarnaan *Alcian Blue* pH 2,5-*Periodic Acid Schiff* (AB pH 2,5-PAS)**

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Sugar glider (*Petaurus breviceps*) adalah *exotic animal* yang tersebar di beberapa negara seperti Indonesia, Papua New Guinea dan Australia. Berdasarkan *International Union for Conservation of Nature and Natural Resources* (IUCN) tahun 2015, status konservasi *sugar glider* adalah *least concern*. *Sugar glider* merupakan hewan omnivora yang memiliki komponen diet utama arthropoda, getah pohon *Acacia sp.*, cairan tumbuhan *eucalyptus* dan nektar. Komposisi pakan sangat erat hubungannya dengan tipe mukopolisakarida yang dihasilkan di lambung. Penelitian ini dilakukan untuk mengetahui tipe dan distribusi mukopolisakarida pada kelenjar gastrika *sugar glider*.

Empat ekor *sugar glider* digunakan sebagai bahan penelitian. Sampel yang dikoleksi adalah lambung yang terdiri dari area kardia, area fundus dan area pilorus. Jaringan diproses dengan metode parafin, kemudian dipotong dengan ketebalan 8 μm . Jaringan pada *coated slide* diwarnai dengan pewarnaan *Alcian Blue* pH 2,5-*Periodic Acid Schiff* (AB pH 2,5-PAS). Hasil pewarnaan dianalisis secara deskriptif.

Hasil penelitian menunjukkan bagian sel epitelium permukaan dan sel kelenjar daerah leher area kardia, fundus, serta pilorus positif dengan *Periodic Acid Schiff* (PAS). Sedangkan pada sel kelenjar daerah badan dan sel kelenjar daerah basal negatif AB pH 2,5 dan PAS. Berdasarkan hasil penelitian dapat disimpulkan distribusi mukopolisakarida pada sel epitelium permukaan dan sel kelenjar daerah leher adalah mukopolisakarida netral yang ditunjukkan dengan adanya warna merah-magenta.

Kata Kunci : *Alcian Blue* pH 2,5-*Periodic Acid Schiff* (AB pH 2,5-PAS),
lambung , mukopolisakarida netral, *sugar glider*.