Working experience in Pathology laboratory

Since 1992

Institute of Agricultural Science, Tokyo University of Agriculture and Technology (TUAT)

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Suvarin Pavasutthipaisit

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Osteosarcoma



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Thanongsak Mamom¹, Pongsiwa Sotthibandhu², Suvarin Pavasutthipaisit¹, Kazuhiko Suzuki³, Makoto Shibutani⁴ ¹Department of Pathology, ²Department of Anatomy, Faculty of Veterinary Medicine, Mahanakorn University of Technology, 140 Cheum-Sampan Rd., Nong Chok, Bangkok 10530, Thailand. ³Laboratory of Veterinary Toxicology, ⁴Laboratory of Veterinary Pathology, Tokyo University of Agriculture and Technology, 3-5-8 Saiwai-cho, Fuchu, Tokyo 183-8509, Japan.

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Selleng





The aim of this current study

Investigate the SNAT1 and p-Akt protein

expression in canine malignant mammary tumor.



• Canine mammary carcinoma

Mammary cancer was the most frequently diagnosed cancer in

female dogs, accounting for 70% of all cancer cases.

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ยาลัยเทคโช

(Merlo, D.F., et al. 2008)



• SNAT1

Acronym: Systemic A-mediated amino acid transporter

Known as: ATA1, NAT2, SAT1

The amino acid carrier plays an important role in cell life activities

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- Energy metabolism
- Detoxification

Malignant transformation of mammal cells.

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• p-Akt

Acronym: Phosphorylated protein kinase B

Known as: PKB, Rac

Play an important role in

- Cell proliferation
- Cell growth
- Migration
- Energy metabolism

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- Human breast cancer
 - Overexpression of SNAT1 significantly associated with tumor

size, nodal metastasis, advance disease stage, KI-67, ER status.

- SNAT1 expression correlated significantly with p-Akt expression.
- Suppression of endogenous SNAT1 lead to cell growth inhibition, cell cycle arrest, cell apoptosis and lowered the phosphorylation

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level of Akt.

(Wang, K., et al. 2013)

- Materials and methods
 - Specimens

Formalin-fixed paraffin embedded specimens of 49 canine mammary glands tissues (2010-2014)

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- Mammary tissue classified based on WHO 1999
- Age at diagnosis
- Lymphatic metastasis
- Tumor sizes
- Other medical records

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Simple adenoma



ระเศาสตร์ มหาวิทยาลียเทค

Complex adenoma



Benign mixed mammary gland tumor





Simple carcinoma





University

Complex carcinoma



wersit

วิศัตร์ มหาวิทยาลัยเทค

10 µm

Anaplastic carcinoma



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- Materials and methods
 - Immunohistochemistry
 - Retrieval of antigen in the section
 Autoclave in citrate buffer (pH 6), 121 Celsius

2005 219

- Primary antibody
 - 🛃 SNAT1
 - p-Akt
 - KI67
- Visualized with DAB
 - SNAT1
 - P-Akt



- Materials and methods
 - Counting expressing glandular epithelial cells.

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Statistic analysis

Correlation coefficients between SNAT1, p-Akt and Ki67 protein

expressions and tumor sizes in canine mammary tumor were

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performed using SPSS[®]

- Results and Conclusions
 - The correlation of SNAT1 and p-Akt signaling might play a critical

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role in progression of canine malignant mammary tumors.

Further new attractive molecularly targeted therapy.

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