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### Paper number 1

<b>Title</b>	<b>Immunohistochemical distribution of S-100 protein and cytoskeletal proteins (<math>\alpha</math>-actin, desmin and vimentin) in bovine tongue and soft palate.</b>
<b>Authors</b>	Hassanin, A. <sup>1</sup> , <b>Elnasharty, M.</b> <sup>2</sup> , Youssef, G. <sup>3</sup> <sup>1</sup> Department of Cytology and Histology, Faculty of Vet. Med., Kafr El-Sheikh University, Kafr El-Sheikh, Egypt. <sup>2</sup> Department of Histology and Cytology, Faculty of Vet. Med., Alex. University-Damanhur Branch, Albostan, Behera, Egypt. <sup>3</sup> Department of Anatomy and Embryology, Faculty of Vet. Med., Mansoura University, Mansoura, Egypt

<b>Abstract</b>	Distribution and localization of S-100 protein and cytoskeletal proteins, $\alpha$ -actin, desmin and vimentin, in the bovine tongue and soft palate were investigated using immunohistochemistry. S-100 protein was expressed in the taste buds and connective tissue core of circumvallate papillae, moderate immunoreactivity occurred in subepithelial connective tissue cells of the tongue and soft palate. The serous secreting cells and ducts cells in the lingual salivary gland, as well as serous demilunes of mixed palatine salivary glands were strongly immunopositive for S-100 protein. Mucous cells of the palatine salivary glands were constantly negative for all tested proteins. Positive staining for $\alpha$ -actin and desmin were observed in the myoepithelial cells, smooth muscle fibers of blood vessels in addition to intrinsic skeletal muscles of tongue and soft palate. Desmin was expressed in stratum granulosum of keratinized epithelium and supranuclear region of lingual salivary glands. Vimentin was always present in connective tissue cells and nerve bundles in both tongue and soft palate. These results revealed a tissue specific distribution of the tested proteins in bovine tongue and soft palate; that highlight for the use of these proteins as markers for many morphological and pathological aspects.
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<b>Keywords</b>	S-100, Desmin, $\alpha$ -actin Vimentin, soft palate, tongue, bovines
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<b>Published in</b>	<b>Kafr El-Sheikh Vet. Med. J. 2007 (5):236-256.</b>
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## Paper number 2

<b>Title</b>	<b>Expression and immunohistochemical localization of the neonatal Fc receptor (FcRn) in the mammary glands of the Egyptian water buffalo.</b>
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<b>Authors</b>	Sayed-Ahmed A. <sup>a</sup> , Kassab, M. <sup>b</sup> , Abd-Elmaksoud, A. <sup>c</sup> , <u>Elnasharty, M.</u> <sup>d</sup> , El-Kirdasy, A. <sup>e</sup> <sup>a</sup> <i>Department of Anatomy and Embryology, Faculty of Veterinary Medicine, Alexandria University (Damanhur Branch), Egypt</i> <sup>b</sup> <i>Department of Cytology and Histology, Faculty of Veterinary Medicine, Kafr El-Sheikh University, Kafr El-Sheikh, Egypt</i> <sup>c</sup> <i>Department of Cytology and Histology, Faculty of Veterinary Medicine, Mansoura University, Mansoura, Egypt</i> <sup>d</sup> <i>Department of Histology and Cytology, Faculty of Veterinary Medicine, Alexandria University (Damanhur Branch), Egypt</i> <sup>e</sup> <i>Department of Biochemistry, Faculty of Veterinary Medicine, Menoufia University (Sadat Branch), Egypt</i>
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<b>Abstract</b>	Although a marginal placental transfer of maternal immunoglobulin (Ig) has been demonstrated in buffalo, the colostrum still provides the main source of immunecomponents and nutrients to neonate buffalo calves. The neonatal Fc receptor (FcRn) transports maternal Ig across the gut wall and is involved in the transport of IgG in the mammary gland. In this study we used RT-PCR to examine the gene expression of FcRn in the mammary gland during several physiological states of the Egyptian water buffalo. The buffalo FcRn showed a high sequence homology to that of other mammalian species and especially the cow. Immunohistochemistry demonstrated positive immunolabelling of FcRn in the epithelial cells of the acini and ducts of the examined mammary gland tissue. Remarkable differences in both the cellular localization and in the intensity of FcRn immunopositivity were observed depending on the functional state of the mammary gland tissues. In late pregnancy, the FcRn immunolabelling was
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	homogeneously distributed in the cytoplasm of the epithelial cells. In recently parturient animals, positive FcRn immunolabelling was mainly located at the luminal surface and apical cytoplasm of the mammary gland epithelium, while in dry and lactating animals, the FcRn immunolabelling was in the apical cytoplasm of the cells. The strongest FcRn immunolabelling was observed in late pregnancy and in recently parturient animals. In conclusion, the present data support the notion that FcRn might be involved in the transfer of maternal immunoglobulins and in the local defense mechanism of the mammary gland.
<b>Keywords:</b>	Mammary glands; Neonatal Fc, receptor; Egyptian water buffalo; Immunohistochemistry
<b>Published in</b>	<b>Acta Histochem 2010; 112:383-91.</b>

### Paper number 3

<b>Title</b>	<b>Immunohistochemical studies of the epididymal duct in Egyptian water buffalo (<i>Bubalus bubalis</i>).</b>
<b>Authors</b>	Alkafafy, M. <sup>a</sup> , <b>Elnasharty, M.</b> <sup>b</sup> , Sayed-Ahmed A. <sup>c</sup> , Abdrabou M. <sup>d</sup> <i><sup>a</sup>Department of Cytology and Histology, Faculty of Veterinary Medicine, Minufiya University, Sadat City Branch, Sadat City 32897, Egypt</i> <i><sup>b</sup>Department of Histology and Cytology, Faculty of Veterinary Medicine, Alexandria University, Damanhour Branch, Elbostan, Beheira, Egypt</i> <i><sup>c</sup>Department of Anatomy and Embryology, Faculty of Veterinary Medicine, Alexandria University, Damanhour Branch, Elbostan, Beheira, Egypt</i> <i><sup>d</sup>Department of Cytology and Histology, Faculty of Veterinary Medicine, Cairo University, Egypt</i>
<b>Abstract</b>	Using immunohistochemistry (IHC), this study aimed to evaluate the regional distribution pattern of some biologically active proteins in the epididymis of Egyptian water buffalo and to determine the structural–functional relationships of the different epididymal structures. Wax-embedded sections from different regions of the epididymal duct from adult, clinically healthy, buffalo bulls were used. Primary antibodies against angiotensin converting enzyme (ACE), S-100, galactosyltransferase (GalTase), alpha smooth muscle actin (a-SMA), connexin 43 (Cx43) and vascular endothelial growth factor (VEGF) were used for Immunohistochemical studies. The results showed that, in addition to the well-known principal and basal cells, the epididymal epithelium, similar to that of other species, possessed apical cells and intraepithelial leukocytes. IHC showed that, with the exception of VEGF which reacted negatively, all antibodies used displayed variable reactivity in the different epididymal structures. Apical cells expressed a strong reaction with ACE along the entire length of the duct. The principal cells in the caput epididymis exhibited a distinct reactivity with S-100 and GalTase. The peritubular muscular coat displayed a marked immunostaining for a-SMA and for Cx43. In conclusion these findings showed a regional-specific distribution pattern, distinct from that in bovine bulls. Some potential functional capacities, especially absorptive and secretory ones, are discussed in relation to the different epididymal regions.
<b>Keywords</b>	Immunohistochemistry, Epididymis, Water buffalo
<b>Published in</b>	<b>Acta Histochem 2011(113):96-102.</b>

## Paper number 4

<b>Title</b>	<b>In situ identification of sugar residues in monkeys salivary glands by lectin histochemistry. II. Parotid gland.</b>
<b>Authors</b>	Fayed M.H <sup>1</sup> , Shoaib M <sup>2</sup> and <b>Elnasharty M.</b> <sup>3</sup> <i><sup>1</sup>Department of Anatomy, Faculty of Veterinary Medicine, Kafr Elsheikh University, Egypt</i> <i><sup>2</sup>Department of Anatomy and Embryology, Faculty of Veterinary Medicine, Mansoura University, Egypt</i> <i><sup>3</sup>Department of Histology and Cytology, Faculty of Veterinary Medicine, Alexandria University, Damanhour Branch, Elbostan, Behera, Egypt</i>
<b>Abstract</b>	The parotid salivary gland (PSG) of the monkey was histochemically analyzed by lectin histochemistry aiming to investigate the features of the available sugar residues and their suggested biology. These lectins were used as probe and the horseradish peroxidase (HRP) as visualant. The intensity of lectin binding affinity of the secretory acini and the smaller excretory ducts (intercalated, striated and interlobular ducts) showed wide variations. The reaction of the serous acini was strong with the Wheat germ agglutinin (WGA), moderate with the Ulexus europeus agglutinin-1 (UEA-1), scanty with the Concanavalia ensiformes agglutinin (Con-A) and negative with Peanut agglutinin (PNA). The lining epithelial cells of the intralobular ducts (intercalated and striated ducts) showed strong reaction to WGA, Con-A and PNA. While those of the interlobular ducts were negative to all lectins used except the moderate reaction to PNA. The goblet cells of the interlobular duct gave strong reaction with WGA only. In conclusion, the present study suggested that, the nature and composition of stored glycoproteins in monkey PSG is heterogeneous. The predominant terminal sugar residues are supposed to be N- acetylglucosamine ( $\alpha$ -D-GlcNAc) in secretory acini and $\alpha$ D-glucose ( $\alpha$ -D-glc) and $\alpha$ D-mannose ( $\alpha$ -D-man) in the ducts system.
<b>Keywords:</b>	Non-human primates, parotid salivary gland, glycoproteins, lectin histochemistry
<b>Published in:</b>	<b>Global Veterinaria 2010: 4:568-66.</b>

## Paper number 5

<b>Title</b>	<b>Localization of Sugar Residues in the Stomach of Three Species of Monkeys (Tupaia glis, Nycticebus cocang and Callithrix jacchus) by Lectin Histochemistry.</b>
<b>Authors</b>	Fayed M.H <sup>1</sup> , <b>Elnasharty M.</b> <sup>2</sup> and Shoaib M <sup>3</sup> <i><sup>1</sup>Department of Anatomy, Faculty of Veterinary Medicine, Kafr Elsheikh University, Egypt</i> <i><sup>2</sup>Department of Histology and Cytology, Faculty of Veterinary Medicine, Alexandria University, Damanhour Branch, Elbostan, Behera, Egypt</i> <i><sup>3</sup>Department of Anatomy and Embryology, Faculty of Veterinary Medicine, Mansoura University, Egypt</i>
<b>Abstract</b>	The stomach of three species of non-human primates was investigated using lectin histochemistry to clarify the staining affinity and distribution patterns of their sugar residues. All gastric regions, with little differences between the deep and superficial parts of the same region, were rich in. in N-acetylglucosamine and/or neuraminic acid. Although, the superficial regions of the gastric mucosa showed scanty N-acetylgalactosamine, "- D-glucose and " -D-mannose, its deep parts were rich in these sugars. In conclusion, there is a difference among the mucosubstances of gastric mucous cells. This indicates heterogeneous composition of gastric

	mucus, or mucus molecules with variations in the degree of glycosylation in the different cells.
<b>Keywords</b>	Histochemistry, Lectins, Non-human primates, Stomach
<b>Published in</b>	<b>Advances in Biological Research 2010 4:01-09.</b>

### Paper number 6

<b>Title</b>	<b>Immunohistochemical distribution of some regulatory peptides in the rat stomach.</b>
<b>Authors</b>	<b><u>Elnasharty, M</u><sup>a</sup></b> , Alkafafy, M. <sup>b</sup> <sup>a</sup> <i>Department of Histology and Cytology, Faculty of Veterinary Medicine, Alexandria University (Damanhur Branch), Albostan, Behera, Egypt</i> <sup>b</sup> <i>Department of Cytology and Histology, Faculty of Veterinary Medicine, Minufiya University, Sadat City Branch, Egypt</i>
<b>Abstract</b>	The innervation of the rat stomach has been re-analyzed using immunohistochemical localization of cholinergic markers. These include the common type of choline acetyltransferase (cChAT) and the peripheral type (pChAT), which is the product of a splice variant of ChAT mRNA and preferentially localized to peripheral cholinergic nerves. In addition we studied the immunolocalization of vesicular acetylcholine transporter (VAcHT), neuronal nitric oxide synthase (nNOS) and tyrosine hydroxylase (TH). Paraffin embedded tangential sections from the rat stomach were used to demonstrate the immunolocalization of cholinergic and nitrenergic neurons and nerve fibers in the rat stomach using antibodies to pChAT, cChAT, VAcHT and nNOS. A ganglionated submucosal plexus (SP) was almost absent from the gastric wall, apart from some scattered neurons. Most myenteric plexuses (MP) in the rat stomach showed positive immunostaining for pChAT, cChAT and nNOS only, whereas VAcHT- and TH-immunoreactivities (IR) were observed in the form of varicose nerve fibers and nerve terminals in the rat gastric wall. These results indicate that in the rat gastric wall, submucosal and myenteric nerve fibers showed heterogeneous staining with regard to the examined regulatory peptides and transmitters. The submucosal neurons were almost absent, while the myenteric neurons showed only pChAT, cChAT and nNOS immunostaining suggesting morphological evidence for the roles of cholinergic, nitrenergic and adrenergic mechanisms in stomach secretory and motor functions.
<b>Keywords</b>	Immunohistochemistry; Choline acetyltransferase; Acetylcholine transporter; Neuronal nitric oxide synthase; Tyrosine hydroxylase; Stomach; Rat.
<b>Published in</b>	<b>Kafrelsheikh Vet. Med. J. 2010 (8):1-30.</b>

### Paper number 7

<b>Title</b>	<b>In situ hybridization and immunohistochemical localization of leptin hormone and leptin receptor in the seminal vesicle and prostate gland of adult rat.</b>
<b>Authors</b>	Ahmed Sayed-Ahmed <sup>a</sup> , Ahmed Abd-Elmaksoud <sup>b</sup> , <b><u>Mohamed Elnasharty</u></b> <sup>c</sup> and Mohamed Abu El-Magd <sup>d</sup> . <sup>a</sup> <i>Department of Anatomy and Embryology, Faculty of Veterinary Medicine, Damanhour</i>

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<b>Abstract</b>	<p>The role of leptin in the regulation of male reproductive function is still a matter of debate. Knowledge about a possible source of leptin in the seminal plasma may therefore be helpful in identifying and elucidating the physiological role of leptin hormone in male reproduction. In our investigation, the expression of leptin and its long receptor isoform (Ob-Rb) was studied in adult male Wistar rats using RT-PCR, Southern blot, in situ hybridization and immunohistochemistry. RT-PCR analysis revealed the expression of both leptin and its Ob-Rb in the seminal vesicle and prostate gland. In situ hybridization also localized the mRNA transcripts of leptin and Ob-Rb in the glandular secretory epithelial cells of prostate gland and seminal vesicle. Immunohistochemistry detected the leptin hormone in the lining epithelium of both male genital glands. In conclusion, these findings suggest that the seminal vesicle and prostate gland could be the possible sources of leptin in the seminal plasma. This leptin might have a direct (paracrine, autocrine or both) effect on epithelial cells of the accessory male genital glands, on the spermatozoa via spermatozoan leptin receptors.</p>
<b>Keywords</b>	Leptin, Leptin receptor, Prostate, Seminal vesicle, Rat
<b>Published in</b>	<b>Acta Histochem 2012 (114): 185–191</b>

### Paper number 8

<b>Title</b>	<b>Some histological studies on the pre- and postnatal development of rabbit gustatory papillae by light and scanning microscopes.</b>
<b>Authors</b>	<p>Nour Eldin, A.<sup>1</sup>, <u>Elnasharty, M.</u><sup>1</sup> and El_Sharaby, A.<sup>2</sup></p> <p><sup>1</sup><i>Histology and Cytology department, Fac. of Vet. Med., Damanhour Univ., Egypt</i></p> <p><sup>2</sup><i>Anatomy and Embryology department, Fac. of Vet. Med., Damanhour Univ., Egypt</i></p>
<b>Abstract</b>	<p>The gustatory system allows animals to distinguish between safe and harmful food and affects the consumption of the food, hence the health and growth of animals. In the current study the morphogenesis of gustatory papillae in rabbits during fetal and postnatal life was investigated by light and scanning microscopes. Tongues were obtained from rabbit fetuses starting from embryonic day 16 (E16) to E30 and from newborns till maturity of gustatory system at one month. At E16, the first primordia of circumvallate papillae were observed as epithelial thickenings at the root of the tongue. At E18, the first primordia of fungiform papillae were observed as epithelial thickenings at rostral two thirds of the tongue. By E22, the first primordia of foliate papillae were observed as primary epithelial bands growing into the connective tissue at the posterior margins of the tongue and the formation of Ebner's gland began. By E26, the primitive taste buds appeared at the surface of circumvallate and fungiform papillae. By E28, the mature taste buds appeared in fungiform and circumvallate papillae and fetal taste buds appeared in foliate papillae. At birth, serous secretion began to form with maturation of fungiform and degeneration of fetal taste buds of foliate. By P5, mature taste buds of foliate</p>

	papillae were observed. By P15, mature circumvallate were observed. By 1 <sup>st</sup> month postnatally, mature foliate were observed by completed opened furrows. It is concluded that the rudiments of each of the three different kinds of gustatory papillae appeared at the different stages of prenatal development in rabbits. The rudiments of the circumvallate, fungiform, and foliate papillae were visible at the previous order respectively. The most development of fungiform and circumvallate papillae occurred prenatally while the most development of foliate papillae occurred postnatally. The findings obtained in the current study were discussed in detail.
<b>Keywords</b>	Rabbit; gustatory papillae; morphogenesis; taste buds
<b>Published in</b>	<b>Alex J Vet Med. In press</b>

### Paper number 9

<b>Title</b>	<b>Pre- and postnatal development of rabbit small intestine; a light and scanning electron microscopic study.</b>
<b>Authors</b>	Asmaa, S.I. <sup>1</sup> , Sayed-Ahmed, A. <sup>2</sup> , Abo-Ghanema, I. <sup>3</sup> , and <b><u>Elnasharty, M.</u></b> <sup>1</sup> <sup>1</sup> <i>Histology and Cytology department, Fac. of Vet. Med., Damanhour Univ., Egypt</i> <sup>2</sup> <i>Anatomy and Embryology department, Fac. of Vet. Med., Damanhour Univ., Egypt</i> <sup>3</sup> <i>Physiology department, Fac. of Vet. Med., Damanhour Univ., Egypt</i>
<b>Abstract</b>	The small intestine is a highly differentiated organ that accomplishes both digestive and absorptive functions with great efficiency. The small intestine of rabbit was studied from early prenatal stage to full term in 15 fetuses and during the early days of life till maturity in 21 rabbits using light and scanning electron microscopy. In 15 days old fetuses, the epithelium was flat and stratified and the lumen was oval in shape. By the 18th day of gestation, the epithelial ridges were formed. The first rudimentary villus formation was formed in 21 days old fetuses and the true villi appeared by 24th days of rabbit gestation. At 27 days old, intestinal glands were not appeared yet. By the first day of postnatal life the duodenal glands appeared. The histological maturity of the rabbit small intestine occurred one month after birth. In conclusion, at all stages, the sequential morphologic changes of the rabbit small intestine developed to meet the structural and physiological demands during the fetal stage to be prepared to extra uterine life.
<b>Keywords</b>	Rabbit; small intestine; morphogenesis; villi
<b>Published in</b>	<b>Alex J Vet Med. In press</b>

### Paper number 10

<b>Title</b>	<b>Effect of Ginger and L- carnitine on some reproductive parameters of male rats.</b>
<b>Authors</b>	Hanan A., Ghoneim <sup>1</sup> , El-Far, A.H. <sup>2</sup> , <b><u>Elnasharty, M. A.</u></b> <sup>3</sup> , and Abo-Ghanema, I. I. <sup>1</sup> <sup>1</sup> <i>Physiology department, Fac. of Vet. Med., Damanhour Univ., Egypt</i> <sup>2</sup> <i>Biochemistry department, Fac. of Vet. Med., Damanhour Univ., Egypt</i> <sup>3</sup> <i>Histology and Cytology department, Fac. of Vet. Med., Damanhour Univ., Egypt</i>
<b>Abstract</b>	In this study, we investigated the effects of ginger and L-carnitine on the reproductive performance of male rats with respect to semen parameters, male sex hormones and the testicular antioxidant system. A total of sixty mature male albino

rats were divided into four groups of fifteen rats. The control group received saline, whereas the other three groups received ginger ( $100 \text{ mg kg}^{-1} \text{ d}^{-1}$ ), L-carnitine ( $150 \text{ mg kg}^{-1} \text{ d}^{-1}$ ) or a combination of both ginger ( $100 \text{ mg kg}^{-1} \text{ d}^{-1}$ ) and L-carnitine ( $150 \text{ mg kg}^{-1} \text{ d}^{-1}$ ) via a stomach tube daily for one month. At the end of the treatment period, the rats were sacrificed, and their sperm characteristics (count, motility and viability), antioxidant enzyme factors levels (reduced glutathione, catalase, superoxide dismutase and total antioxidant capacity) and sex hormone levels (testosterone, Follicle stimulating hormone (FSH) and luteinizing hormone (LH) were analysed. Our results showed that the three experimental treatments improved sperm parameters, antioxidant enzyme activity and testosterone hormone levels; the most pronounced positive effects were observed in the group that received a combination of both ginger and L-carnitine. Therefore, the administration of a combination of ginger and L-carnitine may be beneficial for improving male sexual performance.

**Keywords:** Ginger, L-Carnitine, Spermatogenesis, Antioxidant enzymes, Sex hormones, Seminiferous epithelium, Rats

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