Managements' Discussion and Analysis (Expressed in Canadian Dollars)

# KANE BIOTECH INC.

Six months ended June 30, 2016 and 2015



### **Management's Discussion and Analysis**

The following management's discussion and analysis ("MD&A") covers information up to August 17, 2016 and should be read in conjunction with the interim financial statements for the period ended June 30, 2016. Except as otherwise noted, the financial information contained in this MD&A and in the financial statements has been prepared in accordance with IFRS. All amounts are expressed in Canadian Dollars unless otherwise noted. Additional information regarding the Company is available on SEDAR at www.sedar.com and on the Company's website at www.kanebiotech.com.

#### **OVERVIEW**

Kane Biotech Inc. ("Kane Biotech" or the "Company") is a biotechnology company engaged in the research, development and commercialization of technologies and products that prevent and remove microbial biofilms. Biofilms develop when bacteria and other microorganisms form a protective matrix that acts as a shield against attack. When in a biofilm, bacteria become highly resistant to antibiotics, antimicrobials, biocides and host immune responses. This resiliency contributes to numerous human and animal health related problems such as wound care infections, recurrent urinary tract infections, tooth decay, medical device associated and hospital-acquired infections, and foodborne bacteria infections. According to the United States National Institutes of Health biofilms are estimated to be responsible for 80% of all human bacterial infections and cost industry, governments and hospitals billions of dollars each year. As such, there is significant interest in safe and effective products that can combat the biofilm problem.

Kane Biotech has a portfolio of biotechnologies, intellectual property (patents, patents pending and trademarks) and products developed by the Company's own biofilm research expertise and acquired from leading research institutions.

StrixNB™, DispersinB®, Aledex®, bluestem™, AloSera™, coactiv+™ and Kane® are trademarks of Kane Biotech Inc.

The Company is listed on the TSX Venture Exchange under the symbol "KNE"

# **Corporate Update**

The Company is currently focusing the majority of its resources on the companion animal market with the StrixNB brand for the veterinary segment and the bluestem brand for the pet over the counter (OTC) retail market. The strategy also includes licensing the Company's technology with strategic partners.

On July 11, 2016 Kane Biotech Inc. announced that the global animal health company with which it had a Joint Development Agreement (the "JDA"), previously announced by Kane Biotech on May 13, 2015, has made a business decision to decline its option to commercialize Kane Biotech's companion pet oral care technology. Pursuant to the terms of the JDA and the successful completion of its second milestone trial, Kane Biotech will be paid \$50,000 USD which will be included in the Corporation's second quarter financial statements.

In addition, Kane Biotech announced Mr. Grant Humphrey joined the Corporation as Vice- President Sales, effective July 11, 2016.

On June 29, 2016 Kane Biotech Inc. announced that the Corporation has closed its previously announced private placement offering (the "Offering") of common shares ("Common Shares") at a price of \$0.03 per Common Share. At the closing, the Corporation issued 22,018,158 Common Shares for aggregate gross proceeds of \$660,544.74.

The net proceeds of the Offering will be used for development and marketing of the Corporation's technologies and products and for general working capital. The Common Shares issued pursuant to the Offering will be restricted from transfer for a period of four months and a day from the date hereof in accordance with applicable securities laws and the policies of the TSX Venture Exchange (the "Exchange").

Due to the fact that the Common Shares issued pursuant to the Offering were issued at a price lower than \$0.05 per share, the Corporation was required to obtain a waiver from the Exchange to proceed with the Offering. In order to obtain the waiver from the Exchange, the Corporation has agreed to seek the approval of its shareholders for a consolidation of the Common Shares on a five to one basis (the "Consolidation") within six months of the closing of the Offering. The Corporation is confident that it will receive shareholder approval for the Consolidation as it has received undertakings from holders of more than 50% of its issued and outstanding Common Shares, including holders of the Common Shares issued pursuant to the Offering, that they will support the Consolidation. If the Corporation is successful in obtaining shareholder approval for the Consolidation, it will immediately proceed with the Consolidation.



### **Management's Discussion and Analysis**

On June 29, 2016 Kane Biotech Inc. announced that it issued 254,369 common shares of the Corporation ("Common Shares") in payment of \$12,718 in interest owing on the Corporation's \$500,000 2 year 10% convertible redeemable unsecured note (the "Note") as at June 18, 2016. Pursuant to the terms of the Note, the Corporation has the option to issue Common Shares in lieu of cash in payment of interest on the Note at a deemed price per share equal to the market price of the Common Shares on the applicable interest payment date, subject to the approval of the TSX Venture Exchange. The holder of the Note is Philip Renaud, a director and the Chairman of the Corporation.

On June 21, 2016 Kane Biotech Inc. announced that the Company has granted an aggregate of 7,430,000 stock options at an exercise price of \$0.06 per common share to directors, management, and employees of the Company. The options pursuant to the Corporation's stock option plan and are subject to TSX Venture Exchange acceptance. In accordance with securities regulatory requirements, any shares issued pursuant to the exercise of such options will be subject to resale restriction for a period of four months from the date of the grant.

On June 6, 2016 Kane Biotech Inc. announced that the Company's Annual and Special Meeting of shareholders held on June 2, 2016 (the "Meeting"), the following individuals have been elected to the board of directors; Philip Renaud (Chairman), Dr. Arvind Joshi, Mark Nawacki, Dr. Sarah Prichard, Mark Ahrens-Townsend and Marc Edwards. Each Director is to serve for a term of one year or until their successors are elected or appointed.

On June 2, 2016 Kane Biotech Inc. announced the intention of the Company to undertake a non-brokered private placement offering (the "Offering") of up to 50,000,000 common shares ("Common Shares") at a price of \$0.03 per Common Share for gross proceeds of up to \$1,500,000. The net proceeds of the Offering will be used for development and marketing of the Company's products and for general working capital.

Due to the fact that the Common Shares issued pursuant to the Offering are being issued at a price lower than \$0.05 per share, the Company is required to obtain a waiver from the TSX Venture Exchange (the "Exchange") to proceed with the Offering. In order to obtain the waiver from the Exchange, the Company has agreed to seek the approval of its shareholders for a consolidation of the Common Shares on a five to one basis (the "Consolidation") within six months of the closing of the Offering. The Company is confident that it will receive shareholder approval for the Consolidation as it has received undertakings from holders of more than 50% of the current outstanding Common Shares that they will support the Consolidation.

On May 4, 2016 the Company announced the closing of its Rights Offering originally announced on March 29, 2016. The Company issued 81,074,389 common shares of the Company for aggregate gross proceeds of \$2,432,231.67. Pursuant to the Rights Offering, the Company issued 74,191,277 Common Shares under the basic subscription privilege and 6,883,112 Common Shares under the additional subscription privilege. Following completion of the Rights Offering there are now 204,860,910 Common Shares issued and outstanding.

On April 26, 2016, the Company announced that it has received a breakthrough order of its bluestem brand of oral care products from a major North American pet specialty store chain. The chain is one of the largest and fastest growing pet retailers in North America dedicated to providing families with food and supplies for their pets.

On April 7, 2016 Kane Biotech announced that it issued 254,369 common share of the Corporation ("Common Shares") in payment of \$12,718 in interest owing on the Corporation's \$500,000 2 year 10% convertible redeemable unsecured note (the "Note") as at March 18, 2016. Pursuant to the terms of the Note, the Corporation has the option to issue Common Shares in lieu of cash in payment of interest on the Note at a deemed price per share equal to the market price of the Common Shares on the applicable interest payment date, subject to the approval of the TSX Venture Exchange (the "Exchange"). The holder of the Note is Philip Renaud, a director and the Chairman of the Corporation.

On March 29, 2016 the Company announced that it would be offering rights to holders of its common shares on the basis of one right for each common share held. Each right will entitle the holder to subscribe for one common share upon payment of the subscription price of \$0.03 per common share. The Company also announced that it has received a loan in the amount of \$250,000 from a related party. The loan bears interest at 10% per annum and is repayable on demand and as additional consideration for providing the loan the lender will has been issued 1,250,000 share purchase warrants of the Company, each of which entitles the holder to purchase one common share at a price of \$0.05 per Common Share for a period of one year from the date of issuance of the warrants.

On March 1, 2016 the Company announced it will be launching its bluestem<sup>™</sup> brand of premium pet oral care products at Global Pet Expo in Orlando Florida March 16<sup>th</sup> -18<sup>th</sup>.



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On February 22, 2016 the Company received \$90,000 from the exercising of 1,500,000 warrants at \$0.06 per share. The warrants were issued on December 9, 2014 as part of a previous financing. The warrants were exercised by family members of an insider of the Company.

On January 5, 2016 the Company announced (a) the appointment of Audrey Goertzen CPA, CGA as Kane Biotech's new Chief Financial Officer (CFO); (b) the addition of six new members to the Kane Biotech team over the past few months to focus on the commercialization of Kane Biotech's expansive patented and patent pending anti-biofilm technology; (c) that the Company had entered into a Sales Representation Agreement with a U.S. based marketing, consulting, and sales management firm specializing in the pet industry to launch the Corporation's bluestem™ pet oral care brand into the United States in Q1 2016; and (d) 2,825,000 stock options at an exercise price of \$.08 per common share were granted to directors, management, employees and consultants.

On January 4, 2016 the Company received \$180,000 from the exercising of 3,000,000 warrants at \$0.06 per share. The warrants were issued on December 9, 2014 as part of a previous financing. The warrants were exercised by family members of an insider of the Company.

#### Intellectual Property

Patent #	Title	Jurisdiction
2,452,032 6,923,962 7,144,992	Synergistic Antimicrobial Compositions and Methods of Inhibiting Biofilm Formation Signal Peptides, Nucleic Acid Molecules and Methods for Treatment of Caries Synergistic Antimicrobial Compositions and Methods for Reducing Biofilm Formation	Canada United States United States
7,294,497	Compositions and Methods for Enzymatic Detachment of Bacterial and Fungal Biofilms	United States
7,314,857	Synergistic Antimicrobial Compositions and Methods of Inhibiting Biofilm Formation	United States
7,597,895	Signal Peptides, Nucleic Acid Molecules and Methods for Treatment of Caries	United States
7,833,523	Compositions and Methods for Enzymatic Detachment of Bacterial and Fungal Biofilms	United States
540731	Compositions and Methods for Enzymatic Detachment of Bacterial and Fungal Biofilms	New Zealand
555378	Compositions and Methods for Enzymatic Detachment of Bacterial and Fungal Biofilms	New Zealand
2,003,284,385	Compositions and Methods for Enzymatic Detachment of Bacterial and Fungal Biofilms	Australia
564904	Antimicrobial Compositions for Inhibiting Growth and Proliferation of Microbial Biofilms	New Zealand
7,989,604	Compositions and Methods for Enzymatic Detachment of Bacterial and Fungal Biofilms	United States
ZL 2006800241		
	Compositions for Inhibiting Growth and Proliferation of Microbial Biofilm on Medical Devices	China
4999842	Antimicrobial Compositions for Inhibiting Growth and Proliferation of Microbial Biofilms	Japan
2,006,265,707	Antimicrobial Compositions for Inhibiting Growth and Proliferation of Microbial Biofilms	Australia
5073169	Compositions and Methods for Enzymatic Detachment of Bacterial and Fungal Biofilms	Japan
2,332,733	Signal Peptides, Nucleic Acid Molecules and Methods for Treatment of Caries	Canada
8,580,551	Dispersin B Polypeptides and uses thereof	United States
8,617,542	Dispersin B, 5-Fluorouracil, Deoxyribonuclease I and ProteinaseK-Based Antibiofilm	
	Compositions and uses thereof	United States
8,753,692	Biofilm-Removing Antimicrobial Compositions and uses thereof	United States
8,821,862	Soluble β-N-Acetylgucosaminidase Based Antibiofilm Compositions and Uses Thereof	United States
2,283,130	Dispersin B, 5-Fluorouracil, Deoxyribonuclease I and ProteinaseK-Based Antibiofilm	_
	Compositions and uses thereof	Europe
8,906,364	Antimicrobial Compositions for Inhibiting Growth and Proliferation of Microbial Biofilms	United States
2,283,130	Dispersin B, 5-Fluorouracil, Deoxyribonuclease I and ProteinaseK-Based Antibiofilm	11.56 1125 1
0.000.400	Compositions and uses thereof	United Kingdom
2,283,130	Dispersin B, 5-Fluorouracil, Deoxyribonuclease I and ProteinaseK-Based Antibiofilm	0
0.000.400	Compositions and uses thereof	Germany
2,283,130	Dispersin B, 5-Fluorouracil, Deoxyribonuclease I and ProteinaseK-Based Antibiofilm	<b></b>
F750054	Compositions and uses thereof	France
5752051	Biofilm-Removing Antimicrobial Compositions and uses thereof	Japan
EP1906736	Antimicrobial Compositions for Inhibiting Growth and Proliferation of Microbial Biofilms	Europe
EP1906736	Antimicrobial Compositions for Inhibiting Growth and Proliferation of Microbial Biofilms	Germany
EP1906736	Antimicrobial Compositions for Inhibiting Growth and Proliferation of Microbial Biofilms	France
EP1906736	Antimicrobial Compositions for Inhibiting Growth and Proliferation of Microbial Biofilms	United Kingdom



### **Management's Discussion and Analysis**

The Company has 31 issued and 31 pending patents. Successful development of products to prevent and remove microbial biofilms may be dependent upon the ability to obtain these patents; however, there is no guarantee they will be obtained, and, if obtained, it may not be possible to successfully defend against any subsequent infringements to these patents. Currently the Company is unaware that it has infringed upon any existing patents issued to third parties and success may, in part, depend on operating without such infringement.

<u>Trademark</u>	Jurisdiction
Kane <sup>®</sup>	United States
DispersinB <sup>®</sup>	Canada
	United States
	Europe
StrixNB <sup>TM</sup>	United States
Aledex®	United States
bluestem <sup>TM</sup>	United States
	Canada
	Europe
ALO, TM	11 % 100
AloSera™	United States
	Canada
Coactiv+ <sup>™</sup>	United States
	Canada
	Europe

# **Research and Development**

### DispersinB<sup>®</sup> and AloSera<sup>™</sup> Technology

The Company's trademarks for the wound care market are DispersinB and AloSera. The current global market for wound care management technology is estimated at US \$4.5 billion per year. The company has a number of formulations in development including formulations with antibiotics and the antibiofilm enzyme  $\beta$ -N-Acetylglucosaminidase (hereinafter "Enzyme") and antibiofilm-antimicrobial (antibiotic free) formulations for both the veterinary and human markets.

The Company now has three products approved. A topical spray for atopic dermatitis-associated infections for veterinary use, which has Health Canada's Interim Notification Program for Low Risk Veterinary Health Products (LRVHP) approval and two dermatological products approved by Health Canada's Natural Health Product Directorate for human use; a skin care cream and a shampoo.

# Aledex® Technology

The Company's trademark for the medical device coating market is Aledex®. Kane Biotech has both in vitro and in vivo data that demonstrates the product's ability to inhibit the activity of numerous catheter associated pathogens, and protect against urinary catheter related infections. Approximately 30 million urethral catheters are sold in North America annually and indwelling urinary catheters are used in approximately 15% to 25% of short term care patients and all patients in intensive care units. Additionally, in the US alone, more than 150 million intravascular catheters are used and over 5 million central venous lines are inserted. This



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results in about 250,000 catheter related infections each year. Kane Biotech has also demonstrated the antimicrobial and antibiofilm activity of Aledex® combination against dental plaque and oral bacteria associated with periodontal disease.

# StrixNB™ and bluestem™ Technology

The Company's trademarks for the companion pet oral care market are StrixNB™ and bluestem™. The pet oral care market in the US was estimated to be \$775 million in 2015. According to the American Veterinary Medical Association (AVMA) oral health is one of the top three concerns for companion animal owners. Bacteria in the mouth cavity form plaque and as the plaque builds up, bacteria cause tartar build-up, gum infection (gingivitis) and periodontitis. By the time they are three years old 80% of dogs and 70% of cats develop some sort of periodontal disease.

The Company introduced its first oral care product (a concentrated drinking water additive) into the Manitoba market and has received Health Canada's Low Risk Veterinary Health Products (LRVHP.ca) approval for an oral care spray formulation and a water additive powder formulation. In addition, a number of new formulations are in development including a toothpaste, oral foam, oral gel, chew and a super concentrate liquid. These formulations are being developed to offer a portfolio of pet oral care products for consumers. The Company is also pursuing its licensing strategy to license out its intellectual property on a broader scale.

# **KBI Disinfectant Technology**

The Therapeutic Products Directorate of Health Canada issued a Drug Identification Number or DIN (02374463) for the ready-to -use (RTU) formulation of KBI Antibacterial Disinfectant and for KBI Antibacterial Disinfectant concentrate. With these approvals the Company can make antimicrobial claims in the marketing and labelling materials for the product. Supplemental applications are required by Health Canada to make anti-biofilm claims and these regulatory packages will be completed when resources are available.

#### **OUTLOOK**

The strategic direction of the Company is centered on developing solutions to biofilm related problems. In order to advance these programs, management expects Kane Biotech to continue incurring operating losses. Based on current projections and strategic plans, total revenue and net expenses are expected to increase in fiscal 2016 as compared to fiscal 2015.

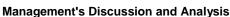
The Company's future operations are completely dependent upon its ability to generate product sales, negotiate collaboration or licence agreements with upfront payments, obtain research grant funding, or other strategic alternatives, and/or secure additional funds. While the Company is striving to achieve the above plans, there is no assurance that such sources of funds will be available or obtained on favourable terms. If the Company cannot generate product sales, negotiate collaboration or licence agreements with upfront payments, obtain research grant funding, or if it cannot secure additional financing on terms that would be acceptable to it, the Company will have to consider additional strategic alternatives which may include, among other strategies, exploring the monetization of certain tangible and intangible assets as well as seeking to license assets or potential asset divestitures.

The ability of the Company to continue as a going concern and to realize the carrying value of its assets and discharge its liabilities and commitments when due is dependent on the successful completion of the actions taken or planned, some of which are described above, which management believes will mitigate the adverse conditions and events which raise doubt about the validity of the going concern assumption used in preparing these financial statements. There is no certainty that these and other strategies will be sufficient to permit the Company to continue as a going concern.

The Company may decide to accelerate, terminate or reduce its focus in certain research areas, or commence research in new areas as a result of the Company's research progress and the availability of financial resources. These decisions are made with the goals of managing the Company's cash resources and optimizing the Company's opportunities. Management is not presently aware of any factors that would change its strategy over the next year. See also note 2(c) to the accompanying financial statements.

#### **RISKS AND UNCERTAINTY**

Kane Biotech operates in a highly competitive environment that involves significant risks and uncertainties, some of which are outside of the Company's control. The Company is subject to risks inherent in the biotechnology industry, including:





# Risks Related to the Company's Financial Condition

- The Company has not derived significant revenues to date from the commercial sale of its antibiofilm technology and
  products. In light of the length of time and expense associated with bringing new products through commercialization,
  obtaining regulatory approval and bringing products to market, operating losses are expected to continue.
- The Company has relied on equity financing to support operations and will continue to need significant amounts of additional capital that may not be available to the Company on favourable terms, and may be dilutive.
- The Company may fail to obtain additional financing and be unable to fund operations and commercialize its product candidates.

The Company intends to raise additional financing, as required, through research, partnering and licensing arrangements, the exercise of warrants and options, and through equity financing. However, there can be no assurance that these financing efforts will be successful or that the Company will continue to be able to meet ongoing cash requirements. It is possible that financing will not be available or, if available, may not be on favourable terms. The availability of financing will be affected by the results of scientific and clinical research, the ability to obtain regulatory approvals, market acceptance of the Company's products, the state of the capital markets generally (with particular reference to pharmaceutical, biotechnology and medical companies), the status of strategic alliance agreements, and other relevant commercial considerations.

# Risks Related to the Company's Business and Operations

- The Company is in various stages of development of products and is dependent on the successful commercialization
  of products to prevent and remove microbial biofilms. Delays may cause the Company to incur additional costs which
  could adversely affect the Company's liquidity and financial results.
- The Company's business is subject to significant government regulation and failure to achieve regulatory approval of its products would negatively affect the business.
- The Company relies on contract manufacturers as part of its product development strategy, and it would be negatively
  affected if it is not able to maintain these relationships and/or the contract manufacturers failed to maintain appropriate
  quality levels.
- Even if product candidates receive all of the required regulatory approvals, there is no guarantee of market
  acceptance or commercialization of the resulting product candidates, which will be determined by the Company's
  sales, marketing and distribution capabilities and the positioning and competitiveness of its products compared with
  any alternatives.
- The Company's industry is characterized by rapid change and a failure by the Company to react to these changes
  could have a material adverse effect on its business.
- If the Company fails to hire or retain needed personnel, the implementation of its business plan could slow and future growth could suffer.

# **Risks Relating to the Intellectual Property**

- Failure to protect intellectual property, or infringement on the intellectual property rights of others, may impede the Company's ability to operate freely.
- The Company is dependent on strategic partners, including contract research organizations, as part of its product development strategy, and it would be negatively affected if it is not able to initiate or maintain these relationships.

Kane Biotech views patents and other means of intellectual property protection as essential to the Company's core business by protecting the Company's proprietary technology from infringement by competitors. To that end, patents will continue to be filed by the Company to ensure the highest level of protection possible is obtained for its products and technologies. The Company requires all employees, consultants, and parties to collaborative research agreements to execute confidentiality agreements upon the commencement of employment, consulting relationships or a collaboration with the Company. These agreements require that all information developed or made known during the course of the engagement with the Company is to be kept confidential. The Company also maintains agreements with scientific staff and all parties contracted in a scientific





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capacity, providing that all inventions resulting from work performed for Kane Biotech, using its property, or relating to its business and conceived or completed during the period covered by the agreement are the exclusive property of the Company.

# Risks Relating to the Company's Common Shares

- The Company has not paid, and does not intend to pay any cash dividends on its common shares and therefore, its shareholders may not be able to receive a return on their shares unless they sell them.
- The market price and trading volume of the Company's common shares may be volatile. In addition, variations in future earnings estimates by securities analysts and the market prices of the securities of the Company's competitors may also lead to fluctuations in the trading price of the common shares.
- The significant costs that the Company will incur as a result of being a public company in Canada could adversely
  affect its business.

To date, no dividends have been declared or paid on the common shares, and it is not expected that dividends will be declared or paid in the immediate or foreseeable future. The policy of the Board of Directors of the Company is to reinvest all available funds in operations. The Board of Directors may reassess this policy from time to time. Any decision to pay dividends on the common shares of Kane Biotech will be made by the Board of Directors based on the assessment of, among other factors, earnings, capital requirements and the operating and financial condition of the Company.

#### SELECTED QUARTERLY FINANCIAL INFORMATION

The selected financial information provided below is derived from Kane Biotech's unaudited quarterly financial statements for each of the last eight quarters:

	Q2-2016	Q1-2016	Q4-2015	Q3-2015	Q2-2015	Q1-2015	Q4-2014	Q3-2014
Investment income	2,909	160	(782)	727	1,209	4,092	(529)	1,272
Loss for the period	(851,270)	(581,358)	(478,146)	(411,827)	(332,897)	(487,127)	(443,612)	(341,993)
Loss per share	(0.00)	(0.00)	(0.00)	0.00	(0.00)	(0.00)	(0.00)	(0.01)

It is important to note that historical patterns of expenditures cannot be taken as an indication of future expenditures. The amount and timing of expenditures, and therefore liquidity and capital resources, may vary substantially from period to period depending on the business and research activities being undertaken at any one time and the availability of funding from investors and prospective commercial partners.

The Company's ongoing quarterly losses relate primarily to the execution of research programs, the commercialization of its research and general and administrative expenses such as professional fees, investor relations, and stock-based compensation. The operations of the Company are not subject to any material seasonality or cyclical factors.



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# **RESULTS OF OPERATIONS**

#### Revenue

Six months ended June 30,	2016	2015	Increase (decrease)		
Revenue	\$ 110,859	\$ 70,240	\$	40,619	
Cost of sales	(50,492)	(24,716)	\$	(25,776)	
Gross profit	\$ 60,367	\$ 45,524	\$	14,843	

#### Research

Research expenditures include costs associated with the Company's research programs, the major portion of which are salaries paid to research staff, laboratory rent, consumables, and consulting. The Company is in the development and commercialization stage and devotes a significant portion of its financial resources to research and market-ready product development activities.

The changes in research expenditures for the periods ended June 30, 2016 and 2015 are reflected in the following table:

Six months ended June 30,		2016	2015	Incre	ease (decrease)
Compensation related costs					
Wages, consulting fees and benefits	\$	82,086	\$ 100,988	\$	(18,902)
Stock compensation related costs		30,166	23,783		6,383
Consumables		32,911	6,770		26,141
Contract research and scientific consulting		116,760	9,450		107,310
License fees		13,447	12,508		939
Laboratory rent and occupancy costs		31,024	35,375		(4,351)
Other research costs		17,451	45,473		(28,022)
Less: Government assistance and lab work recoveries	3	(11,286)	(18,334)		7,048
Research	\$	312,559	\$ 216,013	\$	96,546

Research expenditures for period ended June 30, 2016 were higher as compared to 2015. This increase can be attributed to the following factors:

### **General and Administration**

General and administration expenses include those costs not directly related to research activities. This includes expenses associated with management services, commercialization activities and professional fees such as legal, audit, investor and public relations.

The changes in general and administration expenditures for the periods ended June 30, 2016 and 2015 are reflected in the following table:

Contract Research and Scientific Consulting: Veterinarian Oral Health Council (VOHC) in-vivo clinical trial for \$65,600 USD (Q2, 2016) and an ongoing scientific (formulation) consulting contract.



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Six months ended June 30,		2016	2015	Increa	se (decrease)
Compensation related costs					
Wages, consulting fees and benefits	\$	503,122	\$ 369,294	\$	133,828
Stock compensation related costs		221,216	78,353		142,863
Business development costs		406,289	255,901		150,388
Other administration costs		171,965	90,112		81,853
Less: Government assistance		(59,025)	(70,311)		11,286
General and Adminstration	\$	1,243,567	\$ 723,349	\$	520,218

The net increase in costs for the period ended June 30, 2016 as compared to 2015 can be attributed to the following factors:

- Wages, consulting fees, and benefits are higher due mainly to the hiring of additional staff.
- Stock compensation related costs increased from 2015 to 2016 due to the January and May 2016 grant of stock options to staff, board members and a consultant.
- Business development costs and administration costs have increased due to product marketing start-up and launch costs for the period.

# **Finance Costs (Income)**

The change in investment income for the periods ended June 30, 2016 and 2015 are reflected in the following table:

Six months ended June 30,	2016	2015	Increase (decrease)		
Finance income	\$ (3,069)	\$	(5,301)	\$	2,232
Finance expense	72,283		55,691		16,592
Foreign exchange (gain) loss, net	2,789		(2,634)		5,423
Finance Costs (Income)	\$ 72,003	\$	47,756	\$	24,247

# Loss and comprehensive loss for the year

The loss and comprehensive loss for the periods ended June 30, 2016 and 2015 is reflected in the following table:

Six months ended June 30,	Six months ended June 30,		2016			Increase (decrease)		
Loss and comprehensive loss for the year Loss per share	\$ \$	, , , , ,	\$ \$	(820,024) (0.01)	\$ \$	612,604		

The Company's loss increased compared to the prior period primarily as a result of product marketing start-up costs. The Company expects to incur a loss in the year as it continues its research and commercialization programs.

#### LIQUIDITY AND CAPITAL RESOURCES

Since inception, the Company has financed its operations from public and private sales of equity, the exercise of warrants, investment income on funds available for investment and government grants and tax credits. As at June 30, 2016, the Company had cash totaling \$2,014,472 compared with \$116,310 at the previous year end.



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### Cash used in operating activities

Cash used in operating activities totaled \$1,195,002 for the period ended June 30, 2016, compared to \$677,241 for the same period in 2015 as a result of an increase in actual cash outflows for general, administrative and commercialization activities and changes in other current asset accounts.

#### Cash from financing activities

For the period ended June 30, 2016, cash receipts from the issuance of shares net of share issuance costs of \$3,235,118 were received from the rights offering and the private placement offering as well as from warrants exercised (June 30, 2015 cash outflows were \$1,126)

# Cash used in investing activities

Cash used in investing activities totaled \$141,954 for the period ended June 30, 2016. This amount represents patent and trademark costs of \$118,840 and acquisition of property and equipment costs of \$23,114. In the previous period, cash used in investing activities for patent costs totaled \$36,904.

# Shares, options, and warrants

	August 17, 2016	June 30, 2016	December 31, 2015
Common shares issued and outstanding	227,133,437	227,133,437	119,032,152
Options outstanding	16,327,500	16,327,500	7,522,500
Warrants outstanding	5,250,000	5,250,000	17,500,000

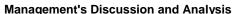
A summary of the Company's capital stock may be found in Note 10 of the accompanying financial statements.

The Company's management will consider financing alternatives and may seek to raise additional funds for operations from current stockholders and other potential investors. This disclosure is not an offer to sell, nor a solicitation of an offer to buy the Company's securities. If the Company should pursue such financing, there would be no assurance that funding would be available or obtained on favourable terms.

As disclosed in note 2 to the accompanying financial statements there is substantial doubt about the use of the going concern assumption. The financial statements do not reflect adjustments in the carrying values of the Company's assets and liabilities, expenses, and the balance sheet classifications used, that would be necessary if the going concern assumption were not appropriate. Such adjustments could be material.

#### **CONTRACTUAL OBLIGATIONS**

The Company periodically enters into long-term contractual agreements for the lease of laboratory facilities, equipment and certain purchased services. The following table presents commitments arising from agreements currently in force over the next five years.





		Payments due by Period							
		Within		2-3 years		4-5			
	1 year					years	Total		
Facility lease agreements	\$	55,248	\$	-	\$	-	\$	55,248	
Accounts payable and accrued liabilities		222,257		-		-		222,257	
	\$	277,505	\$	-	\$	-	\$	277,505	
Licence maintenance fees (USD)		-	\$	20,000	\$	20,000	\$	40,000	

#### **GUARANTEES**

The Company periodically enters into research and licence agreements with third parties that include indemnification provisions customary in the industry. These guarantees generally require the Company to compensate the other party for certain damages and costs incurred as a result of claims arising from research and development activities undertaken on behalf of the Company. In some cases, the maximum potential amount of future payments that could be required under these indemnification provisions could be unlimited. These indemnification provisions generally survive termination of the underlying agreement. The nature of the indemnification obligations prevents the Company from making a reasonable estimate of the maximum potential amount it could be required to pay. Historically, the Company has not made any indemnification payments under such agreements and no amount has been accrued in the accompanying financial statements with respect to these indemnification obligations.

#### **OFF-BALANCE SHEET ARRANGEMENTS**

Other than as described above, the Company does not have any off-balance sheet arrangements.

# **CONTROLS**

As a result of the Company's limited administrative staffing levels, internal controls which rely on segregation of duties in many cases are not appropriate or possible. Due to resource constraints and the present stage of the Company's development, the Company does not have sufficient size and scale to warrant the hiring of additional staff to correct this potential weakness at this time. To help mitigate the impact of this potential weakness, the Company is highly reliant on the performance of compensating procedures and senior management's review and approval. During the period the Company moved its systems of internal controls over financial reporting from an outside contracted accounting service to internal employee resources and computer systems.

As a venture issuer, the Company is not required to certify the design and evaluation of the Company's disclosure controls and procedures (DC&P) and internal controls over financial reporting (ICFR), and as such has not completed such an evaluation.

Investors should be aware that inherent limitations on the ability of certifying officers of a venture issuer to design and implement on a cost effective basis DC&P and ICFR as defined in NI 52-109 may result in additional risks to the quality, reliability, transparency and timeliness of interim and annual filings and other reports provided under securities legislation.

# **CRITICAL ACCOUNTING POLICIES AND ESTIMATES**

The preparation of financial statements in conformity with International Financial Reporting Standards ("IFRS") requires the Company to select from possible alternative accounting principles and to make estimates and assumptions that determine the reported amounts of assets and liabilities at the balance sheet date, and reported costs and expenditures during the reporting period. Management believes that the estimates and assumptions upon which the Company relies are reasonable based upon information available at the time these estimates and assumptions are made. Estimates and assumptions may be revised as new information is acquired, and are subject to change.

In addition to the going concern assumption described above, management believes that its most critical accounting policies and estimates relate to the following areas, with reference to notes contained in the accompanying financial statements:



### **Management's Discussion and Analysis**

### Research and development costs

The Company's accounting policy over research and development costs may be found in Note 3(f)(i) in the Company's financial statements. Research expenditures are expensed as incurred. Development expenditures are deferred when they meet the criteria for capitalization in accordance with IFRS GAAP, and the future benefits could be regarded as being reasonably certain. Related tax credits are accounted for as a reduction to research and development expenditures on the condition that the Company is reasonably certain that these credits will materialize.

#### Patents and trademarks

The Company's accounting policy over patents and trademarks may be found in Notes 3(f)(ii) in the Company's financial statements. Patents and trademarks are reviewed for impairment on an ongoing basis whenever events or changes in circumstances indicate that the carrying amount may not be recoverable. If any such indication exists, then the asset's recoverable amount is estimated. An impairment exists when the carrying value of an asset exceeds its recoverable amount, which is the higher of its fair value less costs to sell or its value in use. The fair value less costs to sell calculation is based on available data from observable market prices, less incremental costs. The value in use calculation is based on a discounted cash flow model. These calculations require the use of estimates and forecasts of future cash flows. Qualitative factors, including market size and market growth trends, strength of customer demand and degree of variability in cash flows, as well as other factors, are considered when making assumptions with regard to future cash flows and the appropriate discount rate. A change in any of the significant assumptions of estimates used to evaluate the underlying assets could result in a material change to the results of operations.

Impairment losses recognized in prior periods are assessed at each reporting date for any indications that the loss has decreased or no longer exists. An impairment loss is reversed, to the extent that the asset's carrying amount does not exceed the carrying amount that would have been determined, net of amortization, if no impairment had been recognized. Write-downs as a result of impairment are recognized in research expense in the statement of comprehensive loss.

### **Technology licenses**

The Company's accounting policy over technology licences may be found in Notes 3(f)(iii) in the Company's financial statements. Technology license costs are initially recorded based on the fair value of the consideration paid. They are amortized over their expected useful lives commencing in the period in which the licence becomes available for use, which is no later than when the related product is launched commercially and sales of the licensed products are first earned. The carrying amounts of technology license costs do not necessarily reflect present or future fair values and the ultimate amount recoverable will be dependent upon the successful development and commercialization of products based on these rights. Technology licences are reviewed for impairment on an ongoing basis whenever events or changes in circumstances indicate that the carrying amount may not be recoverable, and are subject to an annual impairment test until commercialization of the related product.

#### Stock-based compensation

The Company's accounting policy over stock-based compensation may be found in Notes 3(h)(ii) and 14 in the Company's financial statements. Where the Company issues warrants and stock options (to its employees, directors and officers), a fair value is derived using the Black-Scholes pricing model. The application of this pricing model requires Management to make assumptions regarding several variables, including the expected life of the options and warrants, the price volatility of the Company's stock over a relevant timeframe, the determination of a relevant risk-free interest rate and an assumption regarding the Company's dividend policy in the future.

A summary of all of the Company's significant accounting policies and estimates may be found in Note 3 to the financial statements.



**Management's Discussion and Analysis** 

#### FORWARD-LOOKING STATEMENTS

This Management's Discussion and Analysis contains forward-looking statements which may not be based on historical fact, including without limitation statements containing the words "believes," "may," "plan," "will," "estimate," "continue," "anticipates," "intends," "expects," and similar expressions. Such forward-looking statements involve known and unknown risks, uncertainties and other factors that may cause the actual results, events or developments to be materially different from any future results, events or developments expressed or implied by such forward-looking statements. Such factors include, among others, the Company's stage of development, lack of product revenues, additional capital requirements, risks associated with the completion of clinical trials and obtaining regulatory approval to market the Company's products, the ability to protect its intellectual property and dependence upon collaborative partners. These factors should be considered carefully and readers are cautioned not to place undue reliance on such forward-looking statements. The forward-looking statements are made as of the date hereof, and the Company disclaims any obligation to update any such factors or to publicly announce the result of any revisions to any of the forward-looking statements contained herein to reflect future results, events or developments.

Actual results and developments are likely to differ, and may differ materially, from those expressed or implied by the forward-looking statements contained in this MD&A. Such statements are based on a number of assumptions which may prove to be incorrect, including, but not limited to, assumptions about:

- general business and economic conditions;
- interest rates and foreign exchange rates;
- the timing of the receipt of regulatory and governmental approvals for the Company's research and development projects;
- the availability of financing for the Company's research and development projects, or the availability of financing on reasonable terms;
- the Company's costs of trials;
- the Company's ability to attract and retain skilled staff;
- market competition;
- tax benefits and tax rates;
- the Company's ongoing relations with its employees and with its business partners.

Management cautions you that the foregoing list of important factors and assumptions is not exhaustive. Events or circumstances could cause actual results to differ materially from those estimated or projected and expressed in, or implied by, these forward-looking statements. You should also carefully consider the matters discussed under "Risk Factors" in this MD&A. The Company undertakes no obligation to update publicly or otherwise revise any forward-looking statements or the foregoing list of factors, whether as a result of new information or future events or otherwise.