

IR BIOSCIENCES HOLDINGS INC  
Form 10-K/A  
April 30, 2009

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UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
WASHINGTON, D.C. 20549

FORM 10-K/A  
Amendment No. 1

x Annual Report Pursuant to Section 13 or 15(d) of the Securities Exchange Act  
of 1934  
For the fiscal year ended December 31, 2008

OR

o Transition Report Pursuant to Section 13 or 15(d) of the Securities Exchange  
Act of 1934

COMMISSION FILE NUMBER: 33-05384

IR BIOSCIENCES HOLDINGS, INC.  
(Name of Small Business Issuer in its Charter)

DELAWARE  
(State or Other Jurisdiction of Incorporation or  
Organization)

13-3301899  
(I.R.S. Employer Identification No.)

8777 E. Via de Ventura, Suite 280, Scottsdale, AZ  
(Address of Principal Executive Offices)

85258  
(Zip Code)

(480) 922-3926  
(Issuer's Telephone Number, including Area Code)

SECURITIES REGISTERED UNDER SECTION 12(B) OF THE EXCHANGE ACT:

NONE

SECURITIES REGISTERED PURSUANT TO SECTION 12(G) OF THE EXCHANGE ACT:

COMMON STOCK, \$ 0.001 PAR VALUE PER SHARE  
(Title of class)

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Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes  No

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes  No

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes  No

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§ 229.405 of this chapter) is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K.

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer or a smaller reporting company. See definitions of "accelerated filer," "large accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer  Accelerated filer  Non-accelerated filer  Smaller reporting company

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act). Yes  No

The aggregate market value of the registrant's issued and outstanding shares of common stock held by non-affiliates of the Registrant as of June 30, 2008 (based on the average of the bid and asked prices as reported by the FINRA OTC Bulletin Board as of that date) was approximately \$8,809,048.

The registrant had 13,097,525 shares of common stock, par value \$0.001 per share, outstanding as of March 24, 2009.

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## Explanatory Note

IR BioSciences Holdings, Inc. (hereinafter, "we," "us," "our," or the "Company") is filing this Amendment No. 1 on Form 10-K/A solely to include the information required by Part III of Form 10-K, which was omitted from our annual report on Form 10-K for the year ended December 31, 2008, as originally filed on March 31, 2009 (the "Form 10-K") and to amend and restate Item 15 of Part IV in its entirety. In connection with the filing of this Amendment No. 1 and pursuant to Rule 12b-15 under the Securities Exchange Act of 1934, as amended, we are including currently dated certifications. Except as described above, no other amendments are being made to the Form 10-K. This Amendment No. 1 does not reflect events occurring after the filing of the Form 10-K or modify or update the disclosure contained therein in any way other than as required to reflect the amendments discussed above.

## PART III

## ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

## DIRECTORS AND EXECUTIVE OFFICERS

The following tables set forth certain information with respect to our directors and officers as of March 31, 2009. The following persons serve as our directors and executive officers.

Name	Age	Position
Michael K. Wilhelm	42	President, Chief Executive Officer and Director
John N. Fermanis	55	Chief Financial Officer
Hal N. Siegel, Ph.D.	54	Chief Scientific Officer and Director
Lance K. Gordon, Ph.D.	61	Director
Robert J. Hariri, M.D., Ph.D.	50	Director
Theodore E. Staahl, M.D.	64	Director
Jerome B. Zeldis, M.D., Ph.D.	59	Director

## Background of Directors and Executive Officers.

The directors named below will continue to serve until the next annual meeting and until their successors are elected and have qualified. The Board of Directors, as a whole, identifies director nominees, evaluating candidates based on the requirements set forth in the Company's Bylaws and applicable regulatory requirements.

Our executive officers are appointed by and serve at the discretion of our Board of Directors. There are no family relationships between any director and/or any executive officer.

The following are biographical summaries for the Company's directors and executive officers:

Michael K. Wilhelm, President, Chief Executive Officer and Director. Michael K. Wilhelm has been our President and Chief Executive Officer and a member of our Board of Directors since July 2003. Mr. Wilhelm has been President and Chief Executive Officer and a member of the Board of Directors since co-founding ImmuneRegen BioSciences, Inc., our wholly-owned subsidiary, in December 2002. Mr. Wilhelm has served as Managing Director of Foresight Capital Corporation since July 1996, a company he founded to consult and assist early-stage companies in furthering their growth and development. Mr. Wilhelm retains the title of Managing Director of Foresight Capital Corporation, but the company has had limited business operations since December 2002.

John N. Fermanis, Chief Financial Officer. Mr. Fermanis has served as our Chief Financial Officer since December 2004. From May 2001 to October 2004 Mr. Fermanis served as Chief Financial Officer of AMPS Wireless Data, Inc., a privately held Arizona corporation which he co-founded in 1998. From 1997 to 2001, Mr. Fermanis held the position of Treasury Manager for Peter Piper, Inc., a national restaurant chain headquartered in Scottsdale, Arizona. Mr. Fermanis has over 18 years of financial management experience with both the American Express Corporation and Citigroup in New York City. Mr. Fermanis holds a Bachelor of Arts degree from the S.U.N.Y. at Stony Brook and attended Pace University's Graduate School of Management in New York City.

Hal N. Siegel, Ph.D., Vice President, Chief Scientific Officer and Director.

Dr. Siegel has served on the Board of Directors since June 2006. Dr. Siegel was appointed as Chief Scientific Officer and Vice President in January 2008 after serving as our Senior Director of Product Development and Regulatory Affairs since June 2006. Prior to joining the company, Dr. Siegel served as Acting General Manager and Vice President Regulatory and Scientific Affairs for Zila Biotechnology, Inc. from 2004 to October 2006. In addition, since 2001, Dr. Siegel has provided consulting services for Siegel Consultancy LLC, which has been providing strategic and tactical expertise to life science companies, helping them meet FDA requirements from pre-clinical studies through the regulatory submission process and into the post-approval marketplace. Dr. Siegel holds degrees from Rensselaer Polytechnic Institute and SUNY Buffalo, where he earned his Ph.D., in Biochemical Pharmacology.

Lance K. Gordon, Ph.D., Director. Dr. Gordon has served on our Board of Directors since May 2007. He currently serves as President and CEO of ImmunoBiologics Corporation, a formative biotechnology company that he founded in 2007. Prior to his work at ImmunoBiologics Corporation Dr. Gordon served as President, Chief Executive Officer and as a Director of VaxGen, Inc. from 2001 to 2007. Prior to joining VaxGen, Dr. Gordon was Executive Director of North America for Acambis plc. and a member of the Company's Board of Directors from 1999 to 2001. Previously, he served as President and CEO of OraVax, Inc. from 1990 to 1999, prior to its acquisition by Peptide Therapeutics to form Acambis. Before joining OraVax, he served as the CEO of North American Vaccine from 1988 to 1990, prior to its acquisition by Baxter International. Dr. Gordon received his Ph.D. in Biomedical Science, Immunology from the University of Connecticut and completed his postdoctoral fellowship as an NIH fellow at the Division of Allergy and Immunology, Washington University Medical School, St. Louis. He currently serves on the DHHS National Vaccines Advisory Committee and on the Board of Trustees of the Sabin Vaccine Institute.

Robert J. Hariri, M.D., Ph.D., Director. Dr. Hariri, M.D. has served on our Board of Directors since April 2007. Dr. Hariri has been CEO of Celgene Cellular Therapeutics, a division of Celgene, since 2005. Previously, he had been President of the division from 2002 to 2005. The division focuses on human stem and biomaterial solutions for a range of clinical indications. From 1998 to 2002, prior to joining Celgene Cellular Therapeutics, Dr. Hariri was Founder, Chairman and Chief Scientific Officer for Anthrogenesis Corp./LIFEBANK, Inc., a New Jersey-based privately held biomedical technology and service corporation involved in umbilical cord blood banking and its supporting technology platform. From 1987 to 1994, he was Co-founder, Vice Chairman and Chief Scientific Officer of Neurodynamics, a privately held medical device and technology corporation. Dr. Hariri has held academic positions at Cornell University Medical College Cornell University Graduate School of Medical Sciences. He has also played a prominent medical role at Cornell University Medical College, The New York Hospital-Cornell Medical Center and The Jamaica Hospital-Cornell Trauma Center. While at Cornell, he was the Director of The Center for Trauma Research. He received his Medical Degree and Ph.D. from Cornell University and was awarded a Bachelor of Arts Degree from Columbia College.

Theodore E. Staahl, M.D., Director. Dr. Staahl has served on our Board of Directors since April 2003. Dr. Staahl is employed at the Cosmetic, Plastic and Reconstructive Surgery Center, a company which he founded in 1978. Dr. Staahl's professional training was received at the University of Illinois and the University of Wisconsin and is board certified by the American Board of Facial, Plastic and Reconstruction Surgeons, the Board of Cosmetic Surgeons and the American Board of Head and Neck Surgeons. Dr. Staahl has presented papers at national and international meetings on hair transplant, rhinoplasty and cleft lip deformities.

Jerome B. Zeldis, M.D., Ph.D., Director. Dr. Zeldis has served on our Board of Directors since November 2007. Dr. Zeldis currently serves as Chief Medical Officer of Celgene Corporation, Warren N.J., a position he has held since 1997. He is also currently, and since 2003, Professor of Clinical Medicine at the Robert Wood Johnson Medical School in New Brunswick, N.J. Prior to working at Celgene, Dr. Zeldis worked at Sandoz Research Institute from 1994 to 1995 and Janssen Research Institute from 1995 to 1997 in both clinical research and medical development. He has been a Board member of a few start-up biotechnology companies and is currently on the Board of the Semorex Corporation, the N.J. Chapter of the Arthritis Foundation, and the Castleman's Disease Organization.

## CORPORATE GOVERNANCE

Our Bylaws provide that the number of members of the Board of Directors shall be determined from time to time by resolution of the directors. Our Board of Directors should neither be too small to maintain the needed expertise and independence, nor too large so as to be inefficient in functioning. The general expectation is that the Board will consist of between two and nine directors, although periodically the Board of Directors will review the appropriate size and mix of the Board of Directors in light of our needs provided, however, that no change shall have the effect of shortening the term of any incumbent director.

Our Board of Directors has determined that Drs. Gordon, Hariri, Staahl and Zeldis are independent under the standards of independence applicable to companies traded on the NYSE Amex, although such standards are not applicable to us since we are quoted on the FINRA OTC Bulletin Board (the "OTCBB") and not listed on the NYSE Amex. In addition, our Board of Directors has made a subjective determination as to each independent director that no relationships exists which, in the opinion of the Board of Directors, would interfere with the exercise of independent judgment in carrying out the responsibilities of a director. However, members of the Board of Directors have recused themselves, and the Board of Directors reserves the right to recusal of any member of the Board of Directors from discussion and deliberation in respect of any particular issue in which there is perceived to be a conflict of interest.

During 2008, our Board of Directors met four times. Each member of our Board of Directors attended more than 75% of the aggregate number of meetings of the Board of Directors and the committee or committees on which he served. Directors are encouraged to attend our Annual Meeting of Stockholders and all directors, except for Dr. Zeldis, attended the 2008 Annual Meeting of Stockholders.

#### Committees Of The Board Of Directors

The committees of our Board of Directors consist of an Audit Committee and a Compensation Committee, each of which has the composition and responsibilities as described below. The Board may also establish other committees from time to time to assist in the discharge of its responsibilities.

Our Board of Directors does not maintain a separate Nominating or Corporate Governance Committee. Functions customarily performed by such committee are performed by our Board of Directors as a whole. We are not required to maintain such committee under the applicable rules of the Over-the-Counter Bulletin Board.

Audit Committee. Our Audit Committee was established in June 2008. The Audit Committee oversees our corporate accounting and financial reporting. Among other things, the Audit Committee determines the engagement of and approves fees paid to our independent registered public accounting firm; monitors the qualifications, independence, activities and performance of our independent registered public accounting firm; approves the retention of our independent registered public accounting firm to perform any proposed and permissible non-audit services; reviews our financial statements and critical accounting estimates; and discusses with management and our independent registered public accounting firm the results of the annual audit and the reviews of our quarterly financial statements. The Audit Committee also reviews the effectiveness of internal controls and the adequacy of our disclosure controls and procedures. In addition, the Audit Committee maintains procedures for the receipt of employee complaints and submissions of concerns regarding accounting or auditing matters. The members of our Audit Committee are Dr. Lance K. Gordon and Dr. Theodore E. Staahl. Our Board of Directors has determined that Dr. Gordon is the Audit Committee Financial Expert as defined under Item 407(d) of Regulation S-K. Our Audit Committee met one time during fiscal year 2008.

Compensation Committee. Our Compensation Committee was established in June 2008. Our Compensation Committee establishes, amends, reviews and approves the compensation and benefit plans with respect to officers and employees, including determining individual elements of total compensation of the Chief Executive Officer and other executive officers, and reviewing the performance of IR BioSciences Holdings, Inc., its wholly owned subsidiary ImmuneRegen BioSciences, Inc. and its executive officers with respect to these elements of compensation. The Compensation Committee considers a number of metrics, including peer group analyses and tally sheets, as well as the individual performance of the executive officers and the Company as a whole, based on goals set by the Compensation Committee. The Compensation Committee also determines annual retainer, meeting fees, equity awards and other compensation for members of the Board of Directors and administers the issuance of stock options and other awards under our equity incentive plan. The members of the Compensation Committee are Dr. Hariri, Chairman, and Dr. Gordon. Our Compensation Committee did not meet during fiscal year 2008.

The Board of Directors has adopted a written charter for the Audit Committee and the Compensation Committee. Copies of the current charters of our Audit Committee and Compensation Committee are posted on our website at [www.immuneregen.com](http://www.immuneregen.com). We will provide to any person without charge, upon request, a copy of such charters. You may request a copy of our charters at no cost by writing or calling us at the following address: IR BioSciences Holdings, Inc., 8777 E. Via De Ventura, Suite 280, Scottsdale, Arizona 85258, Attention: John N. Fermanis. You can also request by phone at (480) 922-3926 or fax at (480) 922-4781.

#### Stockholder Communications

We do not have a formal procedure for stockholder communication with our Board of Directors. Stockholders who wish to contact the Board of Directors, a committee of the Board of Directors or an individual director should send their correspondence to IR BioSciences Holdings, Inc., 8777 E. Via De Ventura, Suite 280, Scottsdale, Arizona 85258, Attention: Board of Directors. Any such communication should specify the applicable addressee or addressees to be contacted, as well as the general topic of the communication. We will initially receive and process communications before forwarding them to the addressee. We generally will not forward a stockholder communication to our directors that we determine to be primarily commercial in nature or may be abusive, threatening or otherwise inappropriate.

#### Code of Ethics

We have adopted a code of ethics that applies to all of our officers, directors and employees. We have posted a copy of our code of ethics on the Investors section of our website, [www.immuneregen.com](http://www.immuneregen.com), as required under SEC rules and regulations. If we make any substantive amendments to the code or grant any waiver, including any implicit waiver, from a provision of the code to our principal executive, financial or accounting officer, we will disclose the

nature of the amendment or waiver on our website or in a report on Form 8-K.

We will provide to any person without charge, upon request, a copy of such Code of Ethics. You may request a copy of our Code of Ethics at no cost by writing or calling us at the following address: IR BioSciences Holdings, Inc., 8777 E. Via De Ventura, Suite 280, Scottsdale, Arizona 85258, Attention: John N. Fermanis. You can also request by phone at (480) 922-3926 or fax at (480) 922-4781.

#### Section 16(a) Beneficial Ownership Reporting Compliance

Section 16(a) of the Securities Exchange Act of 1934 requires the directors, executive officers and persons who beneficially own more than 10% of our Common Stock (collectively the "Reporting Persons") to file reports of ownership and changes in ownership with the Securities and Exchange Commission, with a copy delivered to us. Based on a review of the Section 16(a) reports furnished to us and written representations from certain Reporting Persons, we believe that our directors, officers and owners of more than 10% of our common stock complied with all applicable filing requirements except as indicated below.

- Mr. Wilhelm failed to file 22 Form 4s for 40 transactions that occurred in 2004, 2005, 2006, 2007 and 2008. Mr. Wilhelm failed to file a Form 5 for fiscal 2003, 2004, 2005, 2006 and 2007. Mr. Wilhelm filed a Form 5 for fiscal 2008 on February 18, 2009 which reported 40 of these transactions. Mr. Wilhelm's Form 5 for fiscal 2008 was not timely filed;
- Mr. Fermanis failed to file 6 Form 4s for 7 transactions that occurred in 2004, 2005, 2006 and 2007. Mr. Fermanis failed to file a Form 5 for fiscal 2004, 2005, 2006 and 2007. Mr. Fermanis filed a Form 5 for fiscal 2008 on February 17, 2009 which reported 7 of these transactions;
- Dr. Siegel failed to file 5 Form 4s for 5 transactions that occurred in 2005. Dr. Siegel failed to file a Form 5 for fiscal 2006 and 2007. Dr. Siegel filed a Form 5 for fiscal 2008 on February 17, 2009 which reported 5 of these transactions;
- Dr. Gordon failed to file a Form 4 for 1 transaction that occurred in 2007 to report an option grant he received in August 2007 and failed to file a Form 5 for fiscal 2007. Dr. Gordon filed a Form 5 for fiscal 2008 on February 17, 2009 which reported 1 transaction;
- Dr. Hariri failed to file a Form 4 for 2 transactions that occurred in 2007 to report option grants he received in August 2007 and failed to file a Form 5 for fiscal 2007 and 2008;
- Dr. Staahl failed to file 11 Form 4s for 14 transactions that occurred in 2003, 2004, 2006, 2007 and 2008. Dr. Staahl failed to file a Form 5 for fiscal 2003, 2004, 2005, 2006 and 2007. Dr. Staahl filed a Form 5 for fiscal 2008 on February 17, 2009 which reported 14 of these transactions; and,
- Dr. Zeldis failed to timely file a Form 3 within 10 days of his appointment as a director in 2007 and failed to file 2 Form 4s for 2 transactions that occurred in 2008 and failed to file a Form 5 for fiscal 2007. Dr. Zeldis filed a Form 5 for fiscal 2008 on February 17, 2009 which reported 2 of these transactions.

## ITEM 11. EXECUTIVE COMPENSATION

## Summary Compensation Table

The following table sets forth information for the two fiscal years ended December 31, 2008 and 2007 concerning compensation of (i) the individual serving as our principal executive officer during 2008 and (ii) our two most highly compensated executive officers other than our principal executive officer whose annual compensation exceeded \$100,000 who were serving as executive officers as of December 31, 2008, and up to two additional individuals for whom disclosure would have been made in this table but for the fact that the individual was not serving as an executive officer of our company as of December 31, 2008 (collectively, the “Named Executive Officers”).

## SUMMARY COMPENSATION TABLE

Name and Principal Position	Fiscal Year	Salary (\$)	Bonus (\$)	Stock Awards (\$)	Option Awards (\$)(1)	All Other Compensation (\$)(2)	Total (\$)
Michael K. Wilhelm President, CEO and Director	2008	\$ 344,842	\$ 550,000(3)	\$ —	\$ —	15,820	\$ 910,662
	2007	\$ 315,414	\$ 82,239(3)	\$ —	\$ 883,544	15,820	\$ 1,297,017
John N. Fermanis Chief Financial Officer	2008	\$ 130,000	\$ 7,800	\$ —	\$ —	6,498	\$ 144,298
	2007	\$ 112,000	\$ 5,800	\$ —	\$ 230,051	5,994	\$ 353,845
Hal N. Siegel Vice-President and Chief Scientific Officer	2008	\$ 210,000	\$ 10,000	\$ —	\$ —	—	\$ 220,000
	2007	\$ 201,884	\$ —	\$ —	\$ 263,147	—	\$ 465,031

- (1) The amounts shown in this column represent the dollar amounts recognized for share-based compensation expense for financial statement reporting purposes for unvested stock options granted in prior years in accordance with Statement of Financial Accounting Standards No. 123 (revised 2004), Share-Based Payment, or SFAS 123(R), but without giving effect to estimated forfeitures related to service-based vesting conditions. The assumptions used to compute the fair value are disclosed in “Note 7, Stock Options and Warrants”, a footnote to our audited financial statements for the fiscal year ended December 31, 2008.

The table below shows how much of the overall amount of the compensation cost is attributable to each award.

Named Executive Officer	Grant Date	Price (\$)	Underlying Options	Compensation Cost
Michael K. Wilhelm	August 1, 2007	\$ 1.66	200,000	\$ 330,975
	August 1, 2007	\$ 1.95	50,000	\$ 81,112
	September 13, 2006	\$ 2.20	350,000	\$ 329,073
	July 14, 2006	\$ 2.31	189,697	\$ 142,384
				\$ 883,544
John N. Fermanis	August 1, 2007	\$ 1.66	90,000	\$ 148,939
	August 1, 2007	\$ 1.95	50,000	\$ 81,112
				\$ 230,051

Hal N. Siegel	August 1, 2007	\$	1.66	110,000	\$	182,035
	August 1, 2007	\$	1.95	50,000	\$	81,112
					\$	263,147

(2) Other compensation includes automobile lease agreements paid on behalf of the executive officers.

In October 2006, the Company signed a three-year lease agreement for an automobile for the Company's Chief Executive Officer. The rental cost per month is approximately \$1,318. The total cost recognized by us in fiscal year 2008 related to the automobile lease was \$15,820.

In December 2006, the Company signed a two-year lease agreement for an automobile for the Company's Chief Financial Officer. The rental cost per month is approximately \$499. The lease was extended for one additional month. The total cost recognized by us in fiscal year 2008 related to the automobile lease was \$6,498.

(3) Target incentive bonus paid to Michael K. Wilhelm, our President and Chief Executive Officer, per the terms of his employment agreement dated August 10, 2005, as amended November 7, 2005.

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Named Executive Officer	Bonus Date	Bonus (\$)	Form of Bonus
Michael K. Wilhelm	January 7, 2007	\$ 82,293	Cash
		\$ 82,293	
Michael K. Wilhelm	January 9, 2008	\$ 90,750	Cash
Michael K. Wilhelm	July 3, 2008	\$ 59,250	Cash
Michael K. Wilhelm	August 15, 2008	\$ 150,000	Cash
Michael K. Wilhelm	August 15, 2008	\$ 250,000	Restricted Common Stock
		\$ 550,000	

Outstanding Equity Awards at Fiscal Year End

The following table sets forth for each of our named executive officers certain information regarding unexercised options and shares of restricted stock that had not vested as of December 31, 2008.

Name	Option Awards Equity Incentive Plan Awards:					Stock Awards	
	Number of Securities Underlying Unexercised Options (#) Exercisable	Number of Securities Underlying Unexercised Options (#) Unexercisable	Number of Securities Underlying Unexercised Options (#) Unearned	Option Price (\$) Exercised	Option Expiration Date	Number of Shares or Units of Stock That Have Not Vested (#)	Market Value of Shares or Units of Stock That Have Not Vested (\$)
Michael K. Wilhelm, President, Chief Executive Officer	15,000	—	—	\$ 4.40	5/19/10	—	—
	10,303	—	—	\$ 3.30	8/9/10	—	—
	189,697	—	—	\$ 2.31	7/13/11	—	—
	45,455	—	—	\$ 2.20	9/12/11	—	—
	304,546	—	—	\$ 2.20	9/12/11	—	—
	200,000	—	—	\$ 1.66	7/31/17	—	—
	50,000	—	—	\$ 1.95	7/31/17	—	—
John N. Fermanis, Chief Financial Officer	90,000	—	—	\$ 1.66	7/31/17	—	—
	50,000	—	—	\$ 1.95	7/31/17	—	—
Hal N. Siegel, Ph.D., Vice President and Chief Scientific Officer	20,000	—	—	\$ 2.00	10/22/11	—	—
	110,000	—	—	\$ 1.66	7/31/17	—	—
	50,000	—	—	\$ 1.95	7/31/17	—	—

Option Grants in Fiscal Years 2008

We had no option grants to our executive officers in 2008.

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## Employment Agreements

### President and Chief Executive Officer:

On August 10, 2005, we entered into a new employment agreement with our President and Chief Executive Officer, Michael K. Wilhelm. The employment agreement calls for a salary at the rate of \$275,000 per annum. The salary will be subject to adjustment of at least 10% per year at the end of each year. The Company also agreed to defend and indemnify, to the fullest extent permitted by the Company's certificate of incorporation and bylaws and the Delaware General Corporation Law, Mr. Wilhelm and hold him harmless against any liability that he incurs within the scope of his employment under the agreement. The agreement also provides for the following various bonus incentives:

- i) A target incentive bonus in cash and/or stock if the Company consummates a transaction with any unaffiliated third party such as an equity or debt financing, acquisition, merger, strategic partnership or other similar transaction.
- ii) A one time grant of an option to purchase 200,000 shares (post-split) of the Company's common stock at an exercise price equal to the fair market value per share on the date option is granted.

In connection with Mr. Wilhelm's new employment agreement, we also entered into a change of control agreement with him on August 10, 2005. On November 7, 2005 the agreement was amended to include a severance agreement.

Under the change of control agreement, Mr. Wilhelm shall be entitled to a continuation of his base salary for a period of 18 months following an involuntary termination, which means, at any time within that period which is one-year from the change of control date (including such date), the termination of the employment of Mr. Wilhelm (i) by us without cause or (ii) due to constructive termination, as such terms are defined in the change of control agreement. Further, in the event of an involuntary termination, the agreement provides that the Company shall pay Mr. Wilhelm a lump sum amount in cash, equal to the sum of (i) any unpaid incentive compensation which has been allocated or awarded to Mr. Wilhelm for a completed fiscal year or other measuring period preceding the date of involuntary termination under any annual or long-term incentive plan and which, as of the date of involuntary termination, is contingent only upon the continued employment of Mr. Wilhelm to a subsequent date, and (ii) a pro rata portion to the date of involuntary termination of the aggregate value of all contingent incentive compensation awards to Mr. Wilhelm for all then uncompleted periods under any such plan. Further, 100% of the unvested portion of each outstanding stock option granted to Mr. Wilhelm shall be accelerated so that they become immediately exercisable upon the date of involuntary termination.

Under the severance agreement, Mr. Wilhelm shall be entitled to a continuation of his base salary for a period of 18 months following an involuntary termination, which means the termination of the employment of Mr. Wilhelm (i) by the Company without cause or (ii) due to constructive termination, as such terms are defined in the severance agreement. Further, in the event of an involuntary termination, the agreement provides that the Company shall pay Mr. Wilhelm an amount equal to the amount of executive incentive pay (bonus) that he would have received for the year in which the involuntary termination occurred had he met one hundred percent (100%) of the target for such incentive pay.

### Chief Financial Officer:

Pursuant to our employment agreement with John N. Fermanis, our Chief Financial Officer, dated February 15, 2005, we paid a salary of \$60,000 until the Company completed a financing of \$500,000 or more. This occurred on March 4, 2005 when we completed a tender offer for warrants totaling \$1,190,857 net of fees. From March 4, 2005, until December 31, 2005, we paid an annual salary of \$85,000. Thereafter, we paid an annual salary of \$98,000 for the second year ending December 31, 2006 and an annual salary of \$112,000 for the third year ending December 31, 2007. Mr. Fermanis' salary is payable in regular installments in accordance with the customary payroll practices. Mr.

Fermanis also received 10,000 shares (post-split) of our common stock, which were earned at the rate of 1/12 or 833 (post-split) per month beginning January 2005.

On April 3, 2008, we entered into a new employment agreement with John Fermanis effective January 1, 2008 continuing his employment as Chief Financial Officer of the Company and our wholly owned subsidiary, ImmuneRegen BioSciences, Inc. for a period of two years. Mr. Fermanis' previous employment agreement with the Company expired on December 31, 2007. On the same day, we also approved a change of control agreement with Mr. Fermanis effective January 1, 2008.

Pursuant to terms of the employment agreement, Mr. Fermanis will be compensated at an annual base salary of \$130,000 for the first year and \$140,000 for the second year. Mr. Fermanis will also be eligible for discretionary bonuses under our stock option plan during his employment. The employment agreement has a term of two years, subject to early termination provisions.

Pursuant to the terms of the change of control agreement, we agree to pay Mr. Fermanis his salary for a period of 18 months from the date of an involuntary termination, payable in accordance with our compensation practice. Involuntary termination is defined as the termination of Mr. Fermanis' employment by the Company without cause or due to constructive termination at any time within one-year from a change of control event, as defined in the agreement. The change of control agreement commences on the effective date and continues until the earlier of (i) the termination of Mr. Fermanis' employment with Company if the termination is prior to a change of control or (ii) subsequent to a change of control date the earlier of (x) the termination of Mr. Fermanis' employment absent involuntary termination or (y) the one-year anniversary of a change of control.

Chief Scientific Officer

Pursuant to our employment agreement with Dr. Hal N. Siegel, our Senior Director of Product Development and Regulatory Affairs, dated October 23, 2006, we will pay an annual base salary of \$200,000 for the first year and \$210,000 for the second year. Dr. Siegel will also be eligible for discretionary bonuses under our stock option plan during his employment. In addition, Dr. Siegel received options with a term of five years to purchase 20,000 shares (post-split) of our common stock. The options are exercisable at \$2.00 per share. The employment agreement has a term of two years, subject to early termination provisions. Upon termination of Dr. Siegel's employment by the Company without cause or constructive termination, as defined in the agreement, the Company agrees to pay to Dr. Siegel the remainder of his salary for the year or six months salary, whichever is greater, and any accrued vacation.

On December 19, 2008, we, through our wholly-owned subsidiary ImmuneRegen BioSciences, Inc., approved a new employment agreement with Hal N. Siegel as Vice President and Chief Scientific Officer. Mr. Siegel, who is also a member of our Board of Directors and has served as Vice President and Chief Scientific Officer of the Company since November, 2007, also entered into a change of control agreement with us. The effective date of these agreements is October 24, 2008.

Pursuant to terms of the employment agreement, Mr. Siegel will be compensated at an annual base salary of \$225,000 for the first year and \$247,500 for the second year. Mr. Siegel also is entitled to a sign-on cash bonus of \$20,000. Mr. Siegel will also be eligible for bonuses in the form of cash or discretionary stock awards under our stock option plan upon approval of the Board of Directors. The employment agreement has a term of two years, subject to early termination provisions. We may terminate the employment agreement at any time for cause, as defined in the employment agreement, and with 30 days notice without cause. Mr. Siegel may terminate the employment agreement for any reason with 30 days notice. Upon termination of Mr. Siegel's employment by us without cause or constructive termination, as defined in the agreement, we agrees to pay to Mr. Siegel the remainder of his salary for the year or an amount equal to six months salary, whichever is greater, along with any accrued vacation at the time of the termination. Pursuant to the terms of the employment agreement, Mr. Siegel may not compete against the Company, and he may not solicit our customers during the term of the agreement and for a period of three years following the termination of his employment agreement. Mr. Siegel also may not disclose any confidential information regarding us during or within three years after his employment.

Pursuant to the terms of the change of control agreement, we agree to pay Mr. Siegel his salary for a period of 18 months from the date of an involuntary termination, payable in accordance with our compensation practice. Involuntary termination is defined as the termination of Mr. Siegel's employment by the Company without cause or due to constructive termination at any time within one-year from a change of control event, as defined in the agreement. The change of control agreement commences on the effective date and continues until the earlier of (i) the termination of Mr. Siegel's employment with Company, if the termination is prior to a change of control or (ii) subsequent to a change of control date the earlier of (x) the termination of Mr. Fermanis' employment absent involuntary termination or (y) the one-year anniversary of a change of control.

Equity Compensation Plan Information

The following table sets forth, as of April 1, 2009, information about our equity compensation plans that have been approved by our stockholders, and the number of shares of our common stock exercisable under all outstanding options, the weighted-average exercise price of all outstanding options and the number of shares available for future issuance under our equity compensation plans.

(a) Number	(c) Number of securities remaining available for
---------------	--

Plan Category	of securities to be issued upon exercise of outstanding options	(b) Weighted-average exercise price of Outstanding options	future issuance under equity compensation plans excluding securities reflected in column(a)
Equity Compensation Plans Approved by Stockholders (1)	1,784,847	\$ 2.65	3,857,503
Equity Compensation Plans Not Approved by Stockholders (2)	6,322	\$ 250.00	n/a

(1) Represents securities to be issued upon exercise of options and securities remaining available for future issuance under our 2003 Stock Option, Deferred Stock and Restricted Stock Plan.

(2) Represents securities to be issued under 2 options issued pursuant to agreements prior to the registrant's reverse merger transaction with ImmuneRegen Biosciences, Inc. in July 2003. The options expire in March 2010.

### COMPENSATION OF DIRECTORS

**Standard Arrangements.** Directors currently receive no cash compensation from IR BioSciences Holdings, Inc. for their services as members of the Board or for attendance at committee meetings. Members of the Board are reimbursed for some expenses in connection with attendance at Board and committee meetings.

**Other Arrangements.** We may from time to time issue options and/or warrants to executives and directors for fulfilling certain performance goals.

During the year ended December 31, 2008, the Company granted to a board members ten-year options to purchase an aggregate of 25,000 shares of common stock at a price of \$0.66 and additional ten-year options to purchase an aggregate of 150,000 shares of common stock at a price of \$0.15 per share. The Company charged to operations the fair value of \$71,909 for these option grants to board members.

The following table summarizes the compensation received by our directors during 2008.

## DIRECTOR COMPENSATION TABLE

Name	Fees Earned or	Stock Awards (\$)(1)(3)	Option Awards (\$)(2)(3)	Non-Equity Incentive	Nonqualified	All Other Compensation (\$)	Total (\$)
	Paid in Cash (\$)			Plan Compensation (\$)	Deferred Compensation Earnings(\$)		
Lance K. Gordon, Ph.D.	—	—	—	—	—	—	—
Robert J. Hariri, M.D., Ph.D.	—	—	—	—	—	—	—
Theodore E. Staahl, M.D.	—	—	26,142	—	—	—	26,142
Jerome B. Zeldis, M.D., Ph.D.	—	—	45,767	—	—	—	45,767

- (1) The amounts shown in this column represent the dollar amounts recognized for share-based compensation expense for financial statement reporting purposes for unvested restricted stock granted in prior years in accordance with Statement of Financial Accounting Standards No. 123 (revised 2004), Share-Based Payment, or SFAS 123(R), but without giving effect to estimated forfeitures related to service-based vesting conditions. The assumptions used to compute the fair value are disclosed in “Note 7, Stock Options and Warrants”, a footnote to our audited financial statements for the fiscal year ended December 31, 2008.
- (2) The amounts shown in this column represent the dollar amounts recognized for share-based compensation expense for financial statement reporting purposes for stock options granted in 2008 and unvested stock options granted in prior years in accordance with Statement of Financial Accounting Standards No. 123 (revised 2004), Share-Based Payment, or SFAS 123(R), but without giving effect to estimated forfeitures related to service-based vesting conditions. The assumptions used to compute the fair value are disclosed in “Note 7, Stock Options and Warrants”, a footnote to our audited financial statements for the fiscal year ended December 31, 2008. In 2008, Drs. Staahl and Zeldis each were granted stock options to purchase 75,000 shares of Common Stock with a grant date fair value of \$26,142, and Dr. Zeldis was granted stock options to purchase 25,000 shares of Common Stock with a grant date fair value of \$19,625.
- (3) The following table sets forth the aggregate number of shares of Common Stock underlying equity awards outstanding at December 31, 2008:

Name	Stock Option Grants
Lance K. Gordon, Ph.D.	100,000
Robert J. Hariri, M.D., Ph.D.	200,000

Theodore E. Staahl, M.D.	100,000
Jerome B. Zeldis, M.D., Ph.D.	100,000

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

PRINCIPAL STOCKHOLDERS

The following table sets forth certain information known to us with respect to the beneficial ownership of Common Stock as of April 1, 2009 (except as indicated below), by:

- each person or group of affiliated persons known to be the beneficial owner of more than 5% of the Company's Common Stock and not otherwise represented on the Board of Directors (with respect to such stockholders, information is presented as of December 31, 2008);
- each of the directors and nominees;
- each of the Named Executive Officers; and
- all directors and executive officers as a group.

The column entitled “Percentage of Shares of Common Stock Beneficially Owned” is based on 13,097,525 shares of Common Stock outstanding, assuming no further exercises of outstanding options or warrants. Ownership is based upon information provided by each respective officer and director, Forms 4, Schedules 13G and other public documents filed with the Securities and Exchange Commission for some of the stockholders.

Beneficial ownership is determined in accordance with the rules of the SEC. The information does not necessarily indicate beneficial ownership for any other purpose. For purposes of calculating each person’s or group’s percentage ownership, stock options and warrants exercisable within 60 days after April 1, 2009 are included for that person or group, but not the stock options or warrants of any other person or group.

Except as otherwise noted, the persons or entities in this table have sole voting and investing power with respect to all of the shares of Common Stock beneficially owned by them, subject to community property laws, where applicable. Unless otherwise indicated, the address of each stockholder listed in the table is c/o IR BioSciences Holdings, Inc., 8777 E. Via De Ventura, Suite 280, Scottsdale, Arizona 85258.

Beneficially Owned	Shares Held	Owned
<b>5% or greater stockholders:</b>		
YA Global Investments, L.P. (1)	1,450,218	9.99%
Brencourt Advisors, LLC (2)	1,418,627	9.98
<b>Named Executive Officers and Directors:</b>		
Michael K. Wilhelm (3)	1,997,843	14.2
John N. Fermanis (4)	158,000	1.2
Hal N. Siegel, Ph.D. (5)	192,000	1.5
Lance K. Gordon, Ph.D. (6)	100,000	*
Robert J. Hariri, M.D., Ph.D. (7)	321,055	2.4
Theodore E. Staahl, M.D. (8)	451,407	3.4
Jerome B. Zeldis, M.D., Ph.D. (9)	100,000	*
All current executive officers and directors as a group (7 persons)(10)	3,320,305	22.2

\* Represents beneficial ownership of less than one percent of the Company’s Common Stock.

- (1) Consists of 31,043 shares of Common Stock, 1,500,000 shares issuable upon the exercise of outstanding warrants exercisable within 60 days of April 1, 2009, an aggregate of \$3,000,000 in secured convertible notes convertible into Common Stock at \$1.50 per share (the “Notes”) and an aggregate of \$218,889 secured convertible notes convertible at a price of no less than \$0.30 per share (the “Interest Notes”). However, by contract, the warrants cannot be exercised nor may the Notes be converted if after the exercise or conversion the beneficial owner would own more than 9.99% of the outstanding shares of common stock, unless waived by YA Global Investments, L.P. upon 65 days notice. The Interest Notes may not be converted if after the conversion the beneficial owner would own more than 9.98% of the outstanding shares of common stock. Accordingly only 1,419,175 of shares issuable upon the exercise of warrants and conversion of secured convertible notes are included. The business address of YA Global Investments, L.P. is 101 Hudson Street, Suite 3700, Jersey City, NJ 07302.

(2)

Represents securities owned by Brencourt Multi-Strategy Master, Ltd., Schreckhorn Fund Limited, Brencourt Enhanced Multi-Strategy L.P. and Brencourt Enhanced Multi-Strategy International, Ltd., over which Brencourt Advisors, LLC has investment and voting control. Consists of 301,269 shares of Common Stock, 2,500,000 shares issuable upon the exercise of outstanding warrants exercisable within 60 days of April 1, 2009, an aggregate of \$5,000,000 in secured convertible notes convertible into Common Stock at \$1.55 per share and an aggregate of \$250,000 secured convertible notes convertible at a price of no less than \$0.30 per share. However, by contract, the warrants cannot be exercised if after the exercise the beneficial owner would own more than 4.99% of the outstanding shares of common stock (the "Ownership Limitation"), unless such Ownership Limitation is increased or decreased by the holder upon 61 days' prior notice to the Company subject to a maximum Ownership Limitation of 9.99%. The secured convertible notes may not be converted if after the conversion the beneficial owner would own more than 9.98% of the outstanding shares of common stock. Accordingly only 1,117,378 of shares issuable upon the exercise of warrants and conversion of secured convertible notes are included. The address for Brencourt Advisors LLC is 600 Lexington Avenue, 8th Floor, New York, NY 10022.

- (3) Consists of 1,038,727 shares of Common Stock, 144,116 shares issuable upon the exercise of outstanding warrants, and 815,000 shares issuable upon the exercise of stock options exercisable within 60 days of April 1, 2009.
- (4) Consists of 10,000 shares of Common Stock, 8,000 shares issuable upon the exercise of outstanding warrants, and 140,000 shares issuable upon the exercise of stock options exercisable within 60 days of April 1, 2009.
- (5) Consists of 11,000 shares of Common Stock, 1,000 shares issuable upon the exercise of outstanding warrants, and 180,000 shares issuable upon the exercise of stock options exercisable within 60 days of April 1, 2009.

- (6) Consists of 100,000 shares issuable upon the exercise of stock options exercisable within 60 days of April 1, 2009.
- (7) Consists of 89,805 shares of Common Stock, 31,250 shares issuable upon the exercise of outstanding warrants and 200,000 shares issuable upon the exercise of stock options exercisable within 60 days of April 1, 2009. Includes 27,305 shares of Common Stock and 200,000 shares issuable upon the exercise of stock options exercisable within 60 days of April 1, 2009 held by Dr. Hariri and includes 62,500 shares of Common Stock and 31,250 shares issuable upon the exercise of outstanding warrants exercisable within 60 days of April 1, 2009 held by The Hariri Family Limited Partnership, a partnership that Dr. Hariri is the administrative manager thereof.
- (8) Consists of 343,407 shares of Common Stock, 8,000 shares issuable upon the exercise of outstanding warrants, and 100,000 shares issuable upon the exercise of stock options exercisable within 60 days of April 1, 2009.
- (9) Consists of 100,000 shares issuable upon the exercise of stock options exercisable within 60 days of April 1, 2009.
- (10) Consists of 1,492,938 shares of Common Stock, 238,164 shares issuable upon the exercise of outstanding warrants and 1,635,000 shares issuable upon the exercise of stock options exercisable within 60 days of April 1, 2009. Includes 62,500 shares of Common Stock and 31,250 shares issuable upon the exercise of outstanding warrants exercisable within 60 days of April 1, 2009 held by The Hariri Family Limited Partnership, a partnership that Dr. Hariri is the administrative manager thereof.

#### ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

##### Director Independence

Our securities are not listed on a national securities exchange or in an inter-dealer quotation system which has requirements that directors be independent. Shares of our common stock are quoted on the OTCBB. We have adopted the independence standards of the NYSE Amex to determine the independence of our directors and those directors serving on our committees, although we are not subject to the rules of the NYSE Amex. Our Board of Directors has determined that directors Lance K. Gordon, Ph.D., Robert J. Hariri, M.D., Ph.D., Theodore E. Staahl, M.D. and Jerome B. Zeldis, M.D., Ph.D. qualify as independent directors pursuant to NYSE Amex regulations.

##### Certain Relationships And Related Transactions

##### ImmuneRegen Biosciences, Inc.

ImmuneRegen BioSciences, Inc. is a wholly-owned subsidiary of IR BioSciences Holdings, Inc. IR BioSciences Holdings, Inc. and ImmuneRegen BioSciences, Inc. have interlocking executive positions and share common ownership.

#### ITEM 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES

The following table sets forth the aggregate fees accrued by us for audit and other services provided by RBSM LLP for fiscal years 2008 and 2007 for: (i) services rendered for the audit of our annual financial statements and the review of our quarterly financial statements, (ii) services by our auditor that are reasonably related to the performance of the audit or review of our financial statements and that are not reported as Audit Fees, (iii) services rendered in connection with tax compliance, tax advice and tax planning, and (iv) all other fees for services rendered.

	December 31, 2008	December 31, 2007
(i) Audit Fees	\$ 77,975	\$ 68,050
(ii) Audit Related Fees	-	-
(iii) Tax Fees	-	-
(iv) All Other Fees	5,000	3,300
<b>Total fees</b>	<b>\$ 82,975</b>	<b>\$ 71,350</b>

**AUDIT FEES.** Consists of fees billed for professional services rendered for the audit of the Company's consolidated financial statements and review of the interim consolidated financial statements included in quarterly reports and services that are normally provided by the Company's certifying accountant in connection with statutory and regulatory filings or engagements.

**ALL OTHER FEES.** Consists of fees billed for professional services performed by the independent auditors related to the review of and consent to the Company's SEC Form S-8.

We paid no other fees to RBSM LLP during fiscal years 2008 and 2007. The Audit Committee has adopted a pre-approval policy with respect to any fees that may be paid to the Company's independent registered public accounting firm and, therefore, approves in advance all fees paid to RBSM LLP.

POLICY ON AUDIT COMMITTEE PRE-APPROVAL OF AUDIT AND PERMISSIBLE NON-AUDIT SERVICES OF INDEPENDENT AUDITORS

Pursuant to the Company's pre-approval policy, on an annual basis the Audit Committee specifically reviews and pre-approves the audit services to be performed by the Company's independent registered public accounting firm, along with the associated fees. Prior to the end of each fiscal year, management provides to the Audit Committee a list of other services that it anticipates requiring of its independent registered public accounting firm in the following year, along with estimates of the costs of these services. The Committee subsequently considers the general pre-approval of these services and their costs. All other services are pre-approved by the Audit Committee in accordance with applicable requirements.

PART IV

ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

1. Financial Statements: See "Index to Consolidated Financial Statements" in Part II, Item 8 of this annual report on Form 10-K.
2. Financial Statement Schedule: Not applicable.
3. Exhibits:

Exhibit Number Description of Exhibit

- |        |   |
|--------|---|
| 2.1    | Agreement and Plan of Merger dated July 2, 2003 among the Registrant, GPN Acquisition Corporation and ImmuneRegen BioSciences, Inc. (incorporated by reference to exhibit 2 of the Registrant's current report on Form 8-k filed with the Securities and Exchange Commission on July 7, 2003).    |
| 3.1    | Certificate of Incorporation filed with the Delaware Secretary of State on June 4, 1985 (incorporated by reference to exhibit 3.1 of the Registrant's annual report on Form 10-KSB for the year ended December 31, 2001 filed with the Securities and Exchange Commission on April 16, 2002).     |
| 3.1(a) | Certificate of Amendment filed with the Delaware Secretary of State on July 16, 1987 (incorporated by reference to exhibit 3.1(a) of the Registrant's annual report on Form 10-KSB for the year ended December 31, 2001 filed with the Securities and Exchange Commission on April 16, 2002).     |
| 3.1(b) | Certificate of Amendment filed with the Delaware Secretary of State on February 3, 1992 (incorporated by reference to exhibit 3.1(b) of the Registrant's annual report on Form 10-KSB for the year ended December 31, 2001 filed with the Securities and Exchange Commission on April 16, 2002).  |
| 3.1(c) | Certificate of Amendment filed with the Delaware Secretary of State on November 23, 1992 (incorporated by reference to exhibit 3.1(c) of the Registrant's annual report on Form 10-KSB for the year ended December 31, 2001 filed with the Securities and Exchange Commission on April 16, 2002). |
| 3.1(d) | Certificate of Amendment filed with the Delaware Secretary of State on December 15, 1994 (incorporated by reference to exhibit 3.1(d) of the Registrant's annual report on  |

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Form 10-KSB for the year ended December 31, 2001 filed with the Securities and Exchange Commission on April 16, 2002).

- 3.1(e) Certificate of Amendment filed with the Delaware Secretary of State on November 7, 1995 (incorporated by reference to exhibit 3.1(e) of the Registrant's annual report on Form 10-KSB for the year ended December 31, 2001 filed with the Securities and Exchange Commission on April 16, 2002).
- 3.1(f) Certificate of Amendment filed with the Delaware Secretary of State on December 30, 1996 (incorporated by reference to exhibit 3.1(f) of the Registrant's annual report on Form 10-KSB for the year ended December 31, 2001 filed with the Securities and Exchange Commission on April 16, 2002).
- 3.1(g) Certificate of Amendment filed with the Delaware Secretary of State on November 8, 2000 (incorporated by reference to exhibit 3.1(h) of the Registrant's annual report on Form 10-KSB for the year ended December 31, 2001 filed with the Securities and Exchange Commission on April 16, 2002).
- 3.1(h) Certificate of Amendment filed with the Delaware Secretary of State on June 27, 2008 (incorporated by reference to Appendix A to the definitive proxy statement Schedule 14A filed with the Securities and Exchange Commission on May 9, 2008).
- 3.1(i) Certificate of Amendment filed with the Delaware Secretary of State on July 10, 2008 (incorporated by reference to Appendix C to the definitive proxy statement Schedule 14A filed with the Securities and Exchange Commission on May 9, 2008).
- 3.2 Amended and Restated Bylaws of the Registrant dated as of April 19, 2008 (incorporated by reference to Appendix C to the definitive proxy statement Schedule 14A filed with the Securities and Exchange Commission on May 9, 2008).
- 4.1 Specimen Common Stock Certificate (incorporated by reference to exhibit 4.1 of the Registrant's registration statement on Form SB-2 (File No. 333-120784) filed with the Securities and Exchange Commission on November 24, 2004).
- 4.2 2003 Stock Option, Deferred Stock and Restricted Stock Plan (incorporated by reference to exhibit 4.1 of the Registrant's registration statement on Form S-8 (file no. 333-113511) filed with the Securities and Exchange Commission on March 11, 2004).

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Exhibit Number Description of Exhibit

- 4.3 Amendment No. 1 to IR BioSciences Holdings, Inc. 2003 Stock Option, Deferred Stock and Restricted Stock Plan (incorporated by reference to Annex B to the definitive Proxy Statement on Schedule 14A filed with the Securities and Exchange Commission on June 5, 2006).
- 4.4 Amendment No. 2 (titled "Amendment No. 3") to IR BioSciences Holdings, Inc. 2003 Stock Option, Deferred Stock and Restricted Stock Plan (incorporated by reference to Appendix B to the definitive Proxy Statement on Schedule 14A filed with the Securities and Exchange Commission on May 9, 2008).
- 4.5 Form of Warrant by and between the Registrant and each of the Investors or Creditors, as the case may be, who entered into an Agreement filed as Exhibit 10.6, 10.7, 10.8 or 10.9 herewith (incorporated by reference to exhibit 4.1 of the Registrant's current report on Form 8-K filed with the Securities and Exchange Commission on October 19, 2004).
- 4.6 Form of Registration Rights (Annex A to Subscription Agreement) by and between the Registrant and each of the Investors who entered into the Agreements filed as Exhibits 10.6 and 10.8 herewith (incorporated by reference to exhibit 4.2 of the Registrant's current report on Form 8-K filed with the Securities and Exchange Commission on October 19, 2004).
- 4.7 Form of Anti-Dilution Rights (Annex B to Subscription Agreement) by and between the Registrant and each of the Investors who entered into the Agreements filed as Exhibits 10.6 and 10.8 herewith (incorporated by reference to exhibit 4.3 of the Registrant's current report on Form 8-K filed with the Securities and Exchange Commission on October 19, 2004).
- 4.8 Promissory Note issued from the Registrant to SBM Certificate Company as of April 28, 2004 (incorporated by reference to exhibit 4.6 of the Registrant's registration statement on Form SB-2 (File No. 333-120784) filed with the Securities and Exchange Commission on November 24, 2004).
- 4.8 Form of Warrant by and between the Registrant and each of the investors who entered into the Subscription Agreements filed as Exhibits 10.18, 10.19 and 10.20 herewith (incorporated by reference from Exhibit 4.1 to the Quarterly Report on Form 10-QSB as filed with the Securities and Exchange Commission on November 14, 2006).
- 4.10 8% Secured Convertible Debenture due December 31, 2010, issued to YA Global Investments, L.P., dated January 3, 2008 (incorporated by reference from Exhibit 4.1 to the Current Report on Form 8-K as filed with the Securities and Exchange Commission on January 9, 2008).
- 4.11 Common Stock Purchase Warrant, issued to YA Global Investments, L.P., dated January 3, 2008 (incorporated by reference from Exhibit 4.2 to the Current Report on Form 8-K as filed with the Securities and Exchange Commission on January 9, 2008).
- 4.12

8% Secured Convertible Debenture due May 31, 2011 in the amount of \$1,000,000, issued to YA Global Investments, L.P., dated June 12, 2008 (incorporated by reference from Exhibit 4.1 to the Current Report on Form 8-K as filed with the Securities and Exchange Commission on June 17, 2008)

- 4.13 Amendment Number 1 to 8% Secured Convertible Debenture in the amounts of \$2,000,000 and \$1,000,000, issued to YA Global Investments, L.P., dated January 3, 2008 and June 12, 2008, respectively (incorporated by reference from Exhibit 4.1 to the Current Report on Form 8-K as filed with the Securities and Exchange Commission on July 23, 2008).
- 4.14 Waiver of Application of Provisions Under Secured Convertible Debenture between the Company and YA Global Investments, L.P. dated July 18, 2008 (incorporated by reference from Exhibit 4.2 to the Current Report on Form 8-K as filed with the Securities and Exchange Commission on July 23, 2008).
- 4.15 Form of 10% Secured Convertible Debenture due August 8, 2013 dated August 8, 2008 issued to Funds Managed by Brencourt Advisors LLC (incorporated by reference from Exhibit 4.1 to the Current Report on Form 8-K as filed with the Securities and Exchange Commission on August 11, 2008).
- 4.16 Form of Common Stock Purchase Warrant dated August 8, 2008 issued to Funds Managed by Brencourt Advisors LLC (incorporated by reference from Exhibit 4.2 to the Current Report on Form 8-K as filed with the Securities and Exchange Commission on August 11, 2008)

Exhibit Number Description of Exhibit

- 4.17 Amendment Number 2 to 8% Secured Convertible Debenture in the amount of \$2,000,000 issued to YA Global Investments, L.P., dated January 3, 2008 (incorporated by reference from Exhibit 4.3 to the Current Report on Form 8-K as filed with the Securities and Exchange Commission on August 11, 2008).
- 4.18 Amendment Number 2 to 8% Secured Convertible Debenture in the amount of \$1,000,000 issued to YA Global Investments, L.P., dated June 12, 2008 (incorporated by reference from Exhibit 4.4 to the Current Report on Form 8-K as filed with the Securities and Exchange Commission on August 11, 2008)
- 4.19 Amendment Number 1 to Common Stock Purchase Warrant, issued to YA Global Investments, L.P., dated August 8, 2008 (incorporated by reference from Exhibit 4.5 to the Current Report on Form 8-K as filed with the Securities and Exchange Commission on August 11, 2008)
- 4.20 Common Stock Purchase Warrant, issued to YA Global Investments, L.P., dated August 8, 2008 incorporated by reference from Exhibit 4.6 to the Current Report on Form 8-K as filed with the Securities and Exchange Commission on August 11, 2008).
- 10.1 License Agreement dated December 16, 2002 among ImmuneRegen BioSciences, Inc., a subsidiary of the Registrant, David Harris and Mark Witten (incorporated by reference to exhibit 10.4 of the Registrant's registration statement on Form SB-2 (File No. 333-120784) filed with the Securities and Exchange Commission on November 24, 2004).
- 10.1(a) First Amendment to License Agreement dated December 20, 2002 among ImmuneRegen BioSciences, Inc., a subsidiary of the Registrant, David Harris and Mark Witten (incorporated by reference to exhibit 10.4(a) of the Registrant's registration statement on Form SB-2 (File No. 333-120784) filed with the Securities and Exchange Commission on November 24, 2004).
- 10.1(b) Second Amendment to License Agreement dated June 26, 2003 among ImmuneRegen BioSciences, Inc., a subsidiary of the Registrant, David Harris and Mark Witten (incorporated by reference to exhibit 10.4(b) of the Registrant's registration statement on Form SB-2 (File No. 333-120784) filed with the Securities and Exchange Commission on November 24, 2004).
- 10.1(c) Assignment Agreement dated February 23, 2005 between ImmuneRegen BioSciences, Inc., a subsidiary of the Registrant and Mark Witten (incorporated by reference to exhibit 10.4(c) of the Registrant's registration statement on Form SB-2 (File No. 333-120784) filed with the Securities and Exchange Commission on July 20, 2005).
- 10.1(d) Assignment Agreement dated February 23, 2005 among ImmuneRegen BioSciences, Inc., a subsidiary of the Registrant, David Harris and Mark Witten (incorporated by reference to exhibit 10.4(d) of the Registrant's registration statement on Form SB-2 (File No. 333-120784) filed with the Securities and Exchange Commission on July 20, 2005).

- 10.1(e) Assignment Agreement dated November 7, 2005 between ImmuneRegen BioSciences, Inc., a subsidiary of the Registrant and Mark Witten (incorporated by reference to exhibit 10.4(e) of the Registrant's registration statement on Form SB-2 (File No. 333-120784) filed with the Securities and Exchange Commission on November 16, 2005).
- 10.1(f) Assignment Agreement dated November 7, 2005 between ImmuneRegen BioSciences, Inc., a subsidiary of the Registrant and Mark Witten (incorporated by reference to exhibit 10.4(f) of the Registrant's registration statement on Form SB-2 (File No. 333-120784) filed with the Securities and Exchange Commission on February 22, 2006).
- 10.1(g) Assignment Agreement dated November 7, 2005 between ImmuneRegen BioSciences, Inc., a subsidiary of the Registrant and Mark Witten (incorporated by reference to exhibit 10.4(g) of the Registrant's registration statement on Form SB-2 (File No. 333-120784) filed with the Securities and Exchange Commission on November 16, 2005).
- 10.1(h) Assignment Agreement dated November 7, 2005 between ImmuneRegen BioSciences, Inc., a subsidiary of the Registrant and Mark Witten (incorporated by reference to exhibit 10.4(h) of the Registrant's registration statement on Form SB-2 (File No. 333-120784) filed with the Securities and Exchange Commission on November 16, 2005).
- 10.2 Lease Agreement dated July 1, 2004 between ImmuneRegen BioSciences, Inc., a subsidiary of the Registrant, and The Clayton Companies (incorporated by reference to exhibit 10.5 of the Registrant's registration statement on Form SB-2 (File No. 333-120784) filed with the Securities and Exchange Commission on November 24, 2004).
- 10.3 Form of Subscription Agreement entered into as of October 13, 2004 between the Registrant and each of the Investors set forth on the Schedule of Investors thereto (incorporated by reference to exhibit 10.1 of the Registrant's current report on Form 8-K filed with the Securities and Exchange Commission on October 19, 2004).
- 10.4 Form of Settlement Agreement entered into as of October 13, 2004 between the Registrant and each of the Creditors set forth on the Schedule of Creditors thereto (incorporated by reference to exhibit 10.2 of the Registrant's current report on Form 8-K filed with the Securities and Exchange Commission on October 19, 2004).
- 10.5 Form of Subscription Agreement entered into as of October 26, 2004 between the Registrant and each of the Investors set forth on the Schedule of Investors thereto (incorporated by reference to exhibit 10.1 of the Registrant's current report on Form 8-K filed with the Securities and Exchange Commission on October 27, 2004).

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Exhibit Number	Description of Exhibit
10.6	Form of Settlement Agreement entered into as of October 26, 2004 between the Registrant and each of the Creditors set forth on the Schedule of Creditors thereto (incorporated by reference to exhibit 10.2 of the Registrant's current report on Form 8-K filed with the Securities and Exchange Commission on October 27, 2004).
10.7	Employment Agreement dated August 10, 2005 by and between the Registrant and Michael K. Wilhelm (incorporated by reference to exhibit 10.1 of the Registrant's quarterly report on Form 10-QSB for the three months ended September 30, 2005).
10.8	Change of Control Agreement dated August 10, 2005 by and between the Registrant and Michael K. Wilhelm (incorporated by reference to exhibit 10.2 of the Registrant's quarterly report on Form 10-QSB for the three months ended September 30, 2005).
10.9	Severance Agreement dated November 7, 2005 by and between the Registrant and Michael K. Wilhelm (incorporated by reference to exhibit 10.3 of the Registrant's quarterly report on Form 10-QSB for the three months ended September 30, 2005).
10.10	Authorization for Regulatory Contact dated November 7, 2005 between ImmuneRegen BioSciences, Inc., a subsidiary of the Registrant, and Synergos, Inc. (incorporated by reference to exhibit 10.14 of the Registrant's registration statement on Form SB-2 (File No. 333-120784) filed with the Securities and Exchange Commission on February 22, 2006).
10.11	Proforma invoice/quotation dated November 7, 2005 from Sigma-Aldrich, Inc. to ImmuneRegen BioSciences, Inc., a subsidiary of the Registrant (incorporated by reference to exhibit 10.15 of the Registrant's registration statement on Form SB-2 (File No. 333-120784) filed with the Securities and Exchange Commission on November 16, 2005).
10.12	Letter of acceptance dated October 2, 2003, from Huntingdon Life Sciences to ImmuneRegen BioSciences, Inc., a subsidiary of the Registrant (incorporated by reference to exhibit 10.16 of the Registrant's registration statement on Form SB-2 (File No. 333-120784) filed with the Securities and Exchange Commission on February 22, 2006).
10.13	Price Quotation dated June 27, 2003 received by ImmuneRegen BioSciences, Inc., a subsidiary of the Registrant from AppTec Laboratory Services (incorporated by reference to exhibit 10.17 of the Registrant's registration statement on Form SB-2 (File No. 333-120784) filed with the Securities and Exchange Commission on February 22, 2006).
10.14	Consulting Agreement dated March 15, 2005 between ImmuneRegen BioSciences, Inc., a subsidiary of the Registrant and Dr. Hal Siegel, Ph.D. (Siegel Consultancy) (incorporated by reference to exhibit 10.18 of the Registrant's registration statement on Form SB-2 (File No. 333-120784) filed with the Securities and Exchange Commission on February 22, 2006).
10.15	

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Consulting Agreement dated November 3, 2005 between ImmuneRegen BioSciences, Inc., a subsidiary of the Registrant and Dr. Jack Caravelli, Ph.D (incorporated by reference to exhibit 10.19 of the Registrant's registration statement on Form SB-2 (File No. 333-120784) filed with the Securities and Exchange Commission on February 22, 2006).

- 10.16 Consulting Agreement dated July 29, 2005 between ImmuneRegen BioSciences, Inc., a subsidiary of the Registrant and Dr. Kelly McQueen, MD, MPH (incorporated by reference to exhibit 10.20 of the Registrant's registration statement on Form SB-2 (File No. 333-120784) filed with the Securities and Exchange Commission on February 22, 2006).
- 10.17 Form of Subscription Agreement entered into as of December 6, 2006 between the Registrant and each of the Investors set forth on the Schedule of Investors contained therein (incorporated by reference from Exhibit 10.1 to the Report on Form 8-K as filed with the Securities and Exchange Commission on December 7, 2006).
- 10.18 Form of Subscription Agreement entered into as of October 4, 2006 between the Registrant and each of the Investors set forth on the Schedule of Investors contained therein. (incorporated by reference from Exhibit 10.2 to the Quarterly Report on Form 10-QSB as filed with the Securities and Exchange Commission on November 14, 2006).
- 10.19 Form of Subscription Agreement entered into as of October 26, 2006 between the Registrant and each of the Investors set forth on the Schedule of Investors contained therein (incorporated by reference from Exhibit 10.2 to the Quarterly Report on Form 10-QSB as filed with the Securities and Exchange Commission on November 14, 2006).
- 10.20 Standard Form of Director Indemnification Agreement (incorporated by reference from Exhibit 10.21 to the Annual Report on Form 10-KSB/A as filed with the Securities and Exchange Commission on April 30, 2007).
- 10.21 Agreement dated May 14, 2007 by and between the Company and Dr. Lance K. Gordon (incorporated by reference from Exhibit 10.1 to the Current Report on Form 8-K as filed with the Securities and Exchange Commission on May 17, 2007).
- 10.22 Agreement dated August 14, 2007 by and between the Company and Dr. Robert J. Hariri Gordon (incorporated by reference from Exhibit 10.1 to the Current Report on Form 8-K as filed with the Securities and Exchange Commission on August 17, 2007).
- 10.23 Office Lease dated October 25, 2007 by and between the Company and Bay Colony Executive Center-West, a division of BC Management Company, Inc. (incorporated by reference from Exhibit 10.1 to the Current Report on Form 8-K as filed with the Securities and Exchange Commission on October 30, 2007).

Exhibit Number	Description of Exhibit
10.24	Amendment for an Extension to Lease Term and to Relocate to Suite 280 at the Bay Colony Executive Center - East dated March 17, 2009 by and between the Company and Bay Colony Executive Center-West, a division of BC Management Company, Inc. (incorporated by reference from Exhibit 10.1 to the Current Report on Form 8-K as filed with the Securities and Exchange Commission on March 20, 2009).
10.25	Securities Purchase Agreement, dated as of January 3, 2008, by and among the Company, YA Global Investments, L.P., and ImmuneRegen BioSciences, Inc. (incorporated by reference from Exhibit 10.1 to the Current Report on Form 8-K as filed with the Securities and Exchange Commission on January 9, 2008).
10.26	Guaranty Agreement dated as of January 3, 2008, executed by ImmuneRegen BioSciences, Inc. in favor of YA Global Investments, L.P. (incorporated by reference from Exhibit 10.2 to the Current Report on Form 8-K as filed with the Securities and Exchange Commission on January 9, 2008).
10.27	Security Agreement dated as of January 3, 2008, by and among the Company, YA Global Investments, L.P. and ImmuneRegen BioSciences, Inc. (incorporated by reference from Exhibit 10.3 to the Current Report on Form 8-K as filed with the Securities and Exchange Commission on January 9, 2008).
10.28	Patent Security Agreement dated as of January 3, 2008, by and among the Company, YA Global Investments, L.P. and ImmuneRegen BioSciences, Inc. (incorporated by reference from Exhibit 10.3 to the Current Report on Form 8-K as filed with the Securities and Exchange Commission on January 9, 2008).
10.29	Unsecured 12% Senior Promissory Note dated April 13, 2006 (incorporated by reference from Exhibit 10.1 to the Current Report on Form 8-K as filed with the Securities and Exchange Commission on April 19, 2006).
10.30	Unsecured 12% Senior Promissory Note dated July 25, 2006 in the amount of \$250,000 (incorporated by reference from Exhibit 10.1 to the Current Report on Form 8-K as filed with the Securities and Exchange Commission on August 4, 2006).
10.31	Unsecured 12% Senior Promissory Note dated August 1, 2006 in the amount of \$50,000 (incorporated by reference from Exhibit 10.2 to the Current Report on Form 8-K as filed with the Securities and Exchange Commission on August 4, 2006).
10.32	Unsecured 12% Senior Promissory Note dated August 1, 2006 in the amount of \$20,000 (incorporated by reference from Exhibit 10.3 to the Current Report on Form 8-K as filed with the Securities and Exchange Commission on August 4, 2006).
10.33	Employment Agreement dated January 1, 2008 by and between the Company and John Fermanis (incorporated by reference from Exhibit 10.1 to the Current Report on Form 8-K as filed with the Securities and Exchange Commission on April 8, 2008).
10.34	Change of Control Agreement dated January 1, 2008 by and between the Company and John Fermanis (incorporated by reference from Exhibit 10.2 to the Current Report

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on Form 8-K as filed with the Securities and Exchange Commission on April 8, 2008).

- 10.35 Securities Purchase Agreement, dated as of August 8, 2008, by and among the Company, ImmuneRegen BioSciences, Inc., and certain funds managed by Brencourt Advisors, LLC (incorporated by reference from Exhibit 10.1 to the Current Report on Form 8-K as filed with the Securities and Exchange Commission on August 11, 2008).
- 10.36 Guaranty Agreement dated as of August 8, 2008, executed by ImmuneRegen BioSciences, Inc. in favor of certain funds managed by Brencourt Advisors, LLC (incorporated by reference from Exhibit 10.2 to the Current Report on Form 8-K as filed with the Securities and Exchange Commission on August 11, 2008).
- 10.37 Security Agreement dated as of August 8, 2008, by and among the Company, ImmuneRegen BioSciences, Inc., and certain funds managed by Brencourt Advisors, LLC (incorporated by reference from Exhibit 10.3 to the Current Report on Form 8-K as filed with the Securities and Exchange Commission on August 11, 2008).
- 10.38 Patent Security Agreement dated as of August 8, 2008, by and among the Company, ImmuneRegen BioSciences, Inc. and certain funds managed by Brencourt Advisors, LLC (incorporated by reference from Exhibit 10.4 to the Current Report on Form 8-K as filed with the Securities and Exchange Commission on August 11, 2008).
- 10.39 Employment Agreement dated October 24, 2008 by and between the Company and Hal Siegel (incorporated by reference from Exhibit 10.1 to the Current Report on Form 8-K as filed with the Securities and Exchange Commission on December 22, 2008).
- 10.40 Change of Control Agreement dated October 24, 2008 by and between the Company and Hal Siegel (incorporated by reference from Exhibit 10.2 to the Current Report on Form 8-K as filed with the Securities and Exchange Commission on December 22, 2008).
- 21.1 Subsidiaries of Registrant (incorporated by reference to exhibit 21.1 of the Registrant's registration statement on Form SB-2 (File No. 333-120784) filed with the Securities and Exchange Commission on November 24, 2004).
- 23.1\* Consent of RBSM LLP

Exhibit Number Description of Exhibit

31.1 Certification of Chief Executive Officer pursuant to Item 601(b)(31) of Regulation S-K, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.

31.2 Certification of Chief Financial Officer pursuant to Item 601(b)(31) of Regulation S-K, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.

32.1\* Certifications of Chief Executive Officer pursuant to 18 U.S.C. Section 1350 as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.\*\*

32.2\* Certifications of Chief Financial Officer pursuant to 18 U.S.C. Section 1350 as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.\*\*

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\* Previously filed.

\*\* This exhibit shall not be deemed “filed” for purposes of Section 18 of the Securities Exchange Act of 1934 or otherwise subject to the liabilities of that section, nor shall it be deemed incorporated by reference in any filing under the Securities Act of 1933 or the Securities Exchange Act of 1934, whether made before or after the date hereof and irrespective of any general incorporation language in any filings.



