Pfenex Reports Second Quarter Results and Provides Business Update

SAN DIEGO, August 8, 2018 —Pfenex Inc. (NYSE American: PFNX) is a clinical-stage development and licensing biotechnology company focused on leveraging its *Pf*ēnex Expression Technology® to improve protein therapies for unmet patient needs. Using the patented *Pf*ēnex Expression Technology platform, the Company has created an advanced pipeline of therapeutic equivalents, vaccines, biologics and biosimilars. Today Pfenex Inc. reported financial results for the second quarter ended June 30, 2018 and provided a business update.

"The momentum in our business continues to build as we deliver on key milestones for our lead asset, PF708, a therapeutic equivalent candidate to Forteo®, our Jazz collaboration, as well as our BARDA and CRM197 partnerships. Our recent achievements showcase the value of our portfolio to generate long-term shareholder value," said Eef Schimmelpennink, Chief Executive Officer of Pfenex. "One of the most significant milestones we announced in the second quarter was positive top-line clinical data from our PF708-301 Phase 3 study. In June, we signed a development and license agreement with Alvogen for the United States. We believe that this agreement with Alvogen provides the best opportunity to maximize the value of PF708. In July we had a constructive Pre-NDA meeting with the agency which confirmed there were no additional clinical, nonclinical or analytical comparability studies requested by the agency, which we believe puts us on track to submit the NDA for PF708 in the fourth quarter of 2018."

"In May, we completed an underwritten public offering that generated net proceeds of approximately $39.5 million. We believe the execution success in the business and our strengthened balance sheet puts us in a good position to execute on our current regulatory, clinical and pre-clinical activities, which we expect to drive shareholder value," concluded Schimmelpennink.

Business Review and Update

PF708 therapeutic equivalent to Forteo® (teriparatide)

Pfenex announced in May positive top-line results from the PF708-301 study, which showed comparable overall profiles between its lead drug candidate, PF708, and Forteo after 24 weeks of daily injection in osteoporosis patients. The PF708-301 study enrolled a total of 181 patients, with 90 patients receiving PF708 and 91 receiving Forteo. Pfenex believes the PF708-301 and PF708-101 study results will support the PF708 new drug application (NDA) submission to the U.S. Food and Drug Administration (FDA). The Company currently plans to submit the NDA to the FDA in the fourth quarter of 2018, with a potential commercial launch in the United States as early as the third quarter of 2019, subject to FDA approval of the application and other factors.

In June, Pfenex and Alvogen entered into a development and license agreement that grants Alvogen exclusive rights to commercialize and manufacture PF708 in the United States. In consideration for the licenses and other rights granted, Pfenex received an upfront payment of $2.5 million and may be eligible to receive an additional $25 million in support and regulatory milestone payments. Pfenex may also be eligible to receive a 50% gross profit split on sales if PF708 is rated as Therapeutic Equivalent (AP), and an otherwise tiered split up to 40%. Under the agreement, Pfenex is responsible for obtaining FDA approval for PF708 at its cost and expense, except that Alvogen will provide a one-time development

support payment of $2.5 million and bear fifty percent of any PDUFA (Prescription Drug User Fee Act) fees that may be payable with respect to PF708. Additionally, Alvogen will support certain agreed costs incurred by us after June 1, 2018, or provide resources at its expense, related to the preparation and filing the NDA for PF708. Following the receipt of FDA approval, Alvogen will be obligated to use diligent efforts to continue to develop, manufacture and commercialize PF708 in the United States at its cost and expense.

In April, Pfenex entered an agreement granting China NT Pharma Group Company Limited (NT Pharma) an exclusive license to NT Pharma to commercialize PF708 in Mainland China, Hong Kong, Singapore, Malaysia and Thailand and a non-exclusive license to conduct development activities in such territories with respect to PF708. In accordance with the agreement, Pfenex received a payment of $2.5 million upon signing the NT Pharma Agreement and may be eligible to receive additional payments of up to $22.5 million based on the achievement of certain development, regulatory, and sales-related milestones. Pfenex may also be eligible to receive double-digit royalties on net sales of PF708. NT Pharma is responsible for any further development required to achieve regulatory approval as well as commercialization activities in the applicable territories. Under the terms and conditions of the agreement, Pfenex will supply PF708 to NT Pharma.

Jazz Collaboration Agreement

In the second quarter, Pfenex achieved two development milestones under its collaboration agreement with Jazz Pharmaceuticals to develop hematology/oncology products resulting in revenue of $750 thousand for successful achievement of a process development milestone for PF745.

Through June 30, 2018, Pfenex has received approximately $36 million through this agreement. Under the agreement, Pfenex is eligible to receive up to $224.5 million in total value of payments and potential payments associated with the collaboration. Pfenex may also be eligible to receive tiered royalties on worldwide sales of any products resulting from the collaboration.

Px563L and RPA563

The development of Pfenex's novel anthrax vaccine candidates is funded through an advanced development contract with the Department of Health and Human Services through the Biomedical Advanced Research and Development Authority (BARDA) valued at up to approximately $145.2 million. Under this contract, the potential next milestones in 2018 are the triggering of analytical and non-clinical animal study options, which could lead to a potential Phase 2 study in 2019, subject in each case to continued funding by BARDA. The Company believes the successful completion of the Phase 2 study and activities under our development contract with BARDA could lead to a procurement contract for supply of Px563L or RPA563 to the Strategic National Stockpile if such product candidates receive regulatory approval.

CRM197

CRM197 is a non-toxic mutant of diphtheria toxin. It is a well characterized protein and functions as a carrier for polysaccharides and haptens making them immunogenic. CRM197 is currently being used or planned to be used by vaccine development focused pharmaceutical partners in multiple late-stage clinical trials for such diseases as pneumococcal and meningitis bacterial infections.

In June, Merck initiated its first Phase 3 clinical study of (V114), an investigational polyvalent conjugate vaccine for the prevention of pneumococcal disease, using CRM197, at which time Pfenex earned a

milestone payment. In addition, Pfenex is eligible to receive annual fees, milestone payments and a tiered royalty based on net sales for all products developed by Merck that use the *Pf*ēnex Expression Technology platform. CRM197 is also planned to be used in multiple late-stage clinical trials for such diseases as pneumococcal and meningitis bacterial infections.

Financial Highlights for the Second Quarter 2018

Total Revenue increased by $1.2 million, or 38%, to $4.2 million in the three months ended June 30, 2018 compared to $3.0 million in same period in 2017. The increase in revenue for the period was due to the achievement of two development milestones related to the Jazz agreement and a milestone earned associated with Merck's initiation of its first Phase 3 clinical study of a pneumococcal vaccine. The development of the vaccine used the *Pf*ēnex Expression Technology platform.

Cost of revenue remained relatively flat at $0.9 million in the three months ended June 30, 2018 compared to the same period in 2017.

Research and development expenses increased by approximately $0.5 million, or 5%, to $10.7 million in the three months ended June 30, 2018 compared to $10.2 million in same period in 2017. The increase was primarily due to increased activity for our product candidate PF708 to satisfy the clinical filing requirements for an NDA, which is expected to be submitted to the FDA in the fourth quarter of 2018. These costs were partially offset by a decrease in expenses due to the Company's decision to pause its development activities on certain product candidates in 2017.

Selling, general and administration expenses decreased by $0.7 million, or 15%, to $3.6 million in the three months ended June 30, 2018 compared to $4.3 million in the same period in 2017. The decrease was primarily due to a decrease in marketing, legal, severance, recruiting fees and other outside services.

Cash and cash equivalents as of June 30, 2018, we had $80.2 million in cash and cash equivalents and $0.2 million in restricted cash as bank collateral for our commercial card program. The Company believes it has sufficient cash resources to fund all necessary activities leading up to and including potential commercial launch in the United States as early as the third quarter of 2019, subject to FDA approval of the application and other factors.

Cautionary Note Regarding Forward-Looking Statement –

This press release contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Forward-looking statements generally relate to future events or Pfenex's future financial or operating performance. In some cases, you can identify forward-looking statements because they contain words such as "may," "will," "should," "expects," "plans," "anticipates," "could," "intends," "target," "projects," "contemplates," "believes," "estimates," "predicts," "potential" or "continue" or the negative of these words or other similar terms or expressions that concern Pfenex's future expectations, strategy, plans or intentions. Forward-looking statements in this press release include, but are not limited to, statements regarding the future potential of Pfenex's product candidates and the company in general, including future plans to advance, develop, manufacture and commercialize its product candidates; Pfenex's expectation to submit an NDA in the fourth quarter of 2018, and the possibility of the potential commercial US launch of PF708 as early as the third quarter of 2019; Pfenex's expectations with respect to the sufficiency of its cash resources; Pfenex's expectations regarding the timing and advancement of clinical trials and studies and the types of future clinical trials and studies for its product candidates, including Px563L/RPA563; Pfenex's expectations regarding the

sufficiency of its clinical trials to satisfy regulatory requirements; Pfenex's ability to generate long-term shareholder value; Pfenex's expectations with regard to future milestones, royalty payments, and reimbursements from Pfenex's collaborations with Jazz Pharmaceuticals, NT Pharma, Alvogen, and its other collaboration partners; Pfenex's expectations regarding potential future milestones, clinical trials, and procurement contracts with respect to Px563L and RPA563; Pfenex's expectation with respect to its agreement with Merck, including its potential to receive annual fees, milestone payments and future royalties; Pfenex's expectation that it will potentially initiate a phase 2 study for Px563L/RPA563 in 2019; and Pfenex's future projections related to increases in research and development costs as Pfenex advances its product candidates. Pfenex's expectations and beliefs regarding these matters may not materialize, and actual results in future periods are subject to risks and uncertainties that could cause actual results to differ materially from those projected. Actual results may differ materially from those indicated by these forward-looking statements as a result of the uncertainties inherent in the clinical drug development process, including, without limitation, Pfenex's ability to successfully demonstrate the efficacy and safety of its product candidates; the pre-clinical and clinical results for its product candidates, which may not support further development of product candidates or may require Pfenex to conduct additional clinical trials or modify ongoing clinical trials or regulatory pathways; challenges related to commencement, patient enrollment, completion, and analysis of clinical trials; difficulties in achieving and demonstrating biosimilarity in formulations; Pfenex's ability to manage operating expenses; Pfenex's ability to obtain additional funding to support its business activities and establish and maintain strategic business alliances and new business initiatives; Pfenex's dependence on third parties for development, manufacture, marketing, sales and distribution of products; unexpected expenditures; litigation and other proceedings regarding intellectual property rights, including potential future litigation by Eli Lilly and Company with respect to PF708; and difficulties in obtaining and maintaining intellectual property protection for its product candidates. Information on these and additional risks, uncertainties, and other information affecting Pfenex's business and operating results is contained in Pfenex's Quarterly Report on Form 10-Q for the period ended June 30, 2018 to be filed with the Securities and Exchange Commission and in its other filings with the Securities and Exchange Commission. The forward-looking statements in this press release are based on information available to Pfenex as of the date hereof, and Pfenex disclaims any obligation to update any forward-looking statements, except as required by law.

Pfenex investors and others should note that we announce material information to the public about the Company through a variety of means, including our website (http://www.pfenex.com/), our investor relations website (http://pfenex.investorroom.com/), press releases, SEC filings, public conference calls, corporate Twitter account (https://twitter.com/pfenex), Facebook page (https://www.facebook.com/Pfenex-Inc-105908276167776/timeline/), and LinkedIn page (https://www.linkedin.com/company/pfenex-inc) in order to achieve broad, non-exclusionary distribution of information to the public and to comply with our disclosure obligations under Regulation FD. We encourage our investors and others to monitor and review the information we make public in these locations as such information could be deemed to be material information. Please note that this list may be updated from time to time.

About Pfenex Inc.

We are a clinical-stage development and licensing biotechnology company focused on leveraging our *Pf*ēnex Expression Technology® to improve protein therapies for unmet patient needs. Using the patented *Pf*ēnex Expression Technology platform, we have created an advanced pipeline of therapeutic equivalents, vaccines, biologics and biosimilars. Our lead product candidates are PF708, a therapeutic equivalent candidate to Forteo® (teriparatide) for the treatment of osteoporosis, and our novel anthrax vaccine candidates, Px563L and RPA563, funded through an advanced development contract with the

U.S. government. In addition, we are developing hematology/oncology products, including PF743, a recombinant crisantaspase, and PF745, a recombinant crisantaspase with half-life extension technology, in collaboration with Jazz Pharmaceuticals. Furthermore, our pipeline includes biosimilar candidates to Lucentis® and Neulasta®.

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PFENEX INC.
Consolidated Statements of Operations
(unaudited)

(in thousands, except per share data)	Three Months Ended June 30, 2018	Three Months Ended June 30, 2017	Six Months Ended June 30, 2018	Six Months Ended June 30, 2017
Revenue	$ 4,190	$ 3,029	$ 7,936	$ 5,847
Cost of revenue	924	905	2,444	1,715
Gross profit	3,266	2,124	5,492	4,132
Operating expense				
Research and development	10,739	10,198	19,545	16,596
Selling, general and administrative	3,647	4,288	8,097	9,974
Total operating expense	14,386	14,486	27,642	26,570
Loss from operations	(11,120)	(12,362)	(22,150)	(22,438)
Other income, net	39	38	42	82
Net loss	$ (11,081)	$ (12,324)	$ (22,108)	$ (22,356)
Net loss per common share basic and diluted	$ (0.41)	$ (0.52)	$ (0.88)	$ (0.95)
Weighted-average common shares used in calculating basic and diluted net loss per share	26,771	23,486	25,178	23,462

PFENEX INC.
Consolidated Balance Sheets

	June 30, 2018 (unaudited)	December 31, 2017
	(in thousands)	
Assets		
Current assets		
Cash and cash equivalents	$ 80,186	$ 57,664
Restricted cash	200	200
Accounts and unbilled receivables, net	1,373	1,306
Income tax receivable	206	638
Other current assets	1,749	1,705
Total current assets	83,714	61,513
Property and equipment, net	7,358	7,397
Other long-term assets	133	133
Intangible assets, net	4,505	4,771
Goodwill	5,577	5,577
Total assets	$ 101,287	$ 79,391
Liabilities and Stockholders' Equity		
Current liabilities		
Accounts payable	$ 2,537	$ 1,905
Accrued liabilities	9,550	8,913
Current portion of deferred revenue	8,965	7,421
Current portion of capital lease obligations	312	228
Total current liabilities	21,364	18,467
Deferred revenue, less current portion	2,500	2,742
Capital lease obligations, less current portion	362	419
Total liabilities	24,226	21,628
Commitments and contingencies		
Stockholders' equity		
Preferred stock, $0.001 par value, 10,000,000 shares authorized; no shares issued and outstanding	—	—
Common stock, par value $0.001, 200,000,000 shares authorized; 31,420,085 and 23,548,280 shares issued and outstanding at June 30, 2018 and December 31, 2017, respectively	32	24
Additional paid-in capital	260,844	219,446
Accumulated deficit	(183,815)	(161,707)
Total stockholders' equity	77,061	57,763
Total liabilities and stockholders' equity	$ 101,287	$ 79,391