



# PFIZER SUMMER INTERNSHIP

HEATHER L. SHERMAN

OSBORNE/MINTER LAB

BTP FELLOW 2016-2018



# PFIZER STATISTICS



- Over 150 year history of making products
- ~56 prescription drugs on the market
- Manufacture household products

**Advil**



**IMEDEEN**  
BEAUTIFUL SKIN BEGINS WITHIN



**Robitussin**

**ThermaCare**  
HEATWRAPS

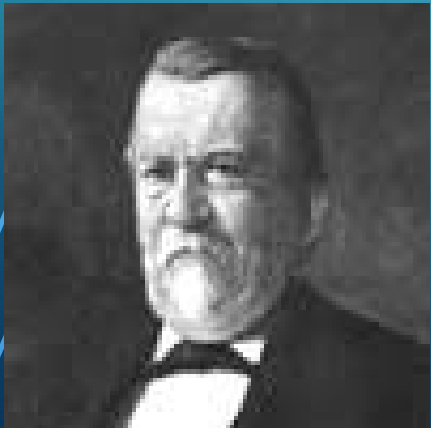


# PFIZER STATISTICS



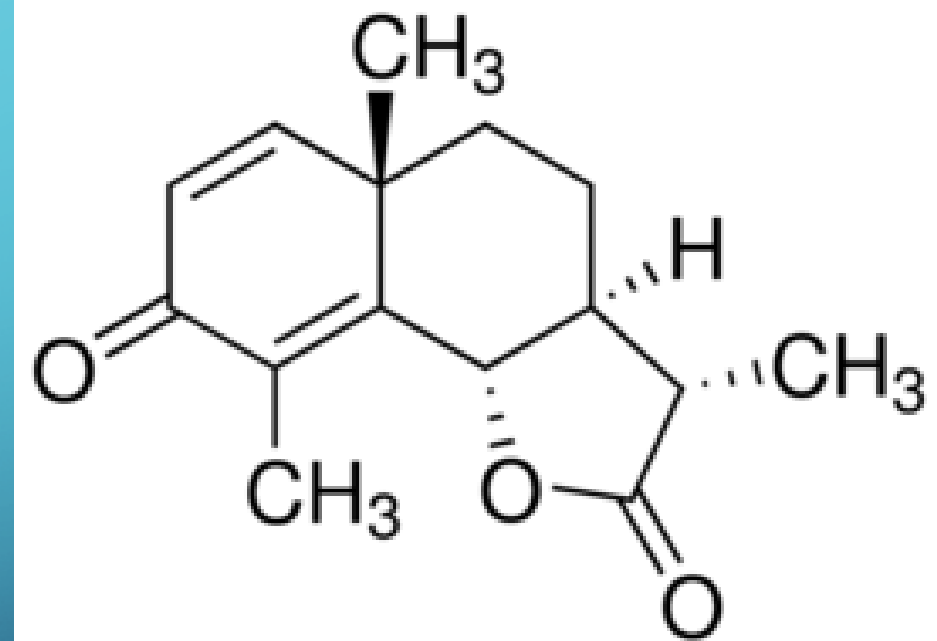
- Over 150 year history of making products
- ~56 prescription drugs on the market
- Manufacture household products
- International company
- \$52.8 billion revenue
- ~96,500 employees in 160 countries
- 7 R&D Facilities

# THE BEGINNINGS OF PFIZER



- Born in 1824 in Modern-Day Germany
- Immigrated to the US in 1849
- Borrowed \$2500 from his father to open a company with his cousin, Charles Erhert (a confectioner)

# THE “NEW” SANTONIN





# 1860S- MASS PRODUCTION

Protect your beverages with

## Pfizer quality

as found  
in these  
preferred  
acidulants

### Pfizer CITRIC ACID

is the preferred acidulant in the manufacture of high quality beverages. It has been the acidulant of choice for the industry for many years. The reason is that the preferred Pfizer brand is easy to handle, adds extra zest to the beverage, and is of the highest quality. It is also the most economical, and is available in many sizes to suit your needs.

Further, it is a natural product, without synthetic or artificial coloring or flavoring. It is a natural product, and is of the highest quality. It is also the most economical, and is available in many sizes to suit your needs.

### Pfizer TARTARIC ACID

is a natural product, without synthetic or artificial coloring or flavoring. It is a natural product, and is of the highest quality. It is also the most economical, and is available in many sizes to suit your needs.

## PFIZER

Manufacturing Chemists Since 1860

Whether Your Needs  
Are Large  
Small or Medium

Let's talk  
**CITRIC**

• Whether you use Citric Acid regularly or only occasionally, in large quantities or in small, Pfizer is anxious to talk citric with you. There's a type and a container size to meet your requirements.

If you use money-saving Pfizer Anhydrous Citric Acid, you'll find it in the following mesh sizes: granular, fine granular, powder. Conveniently packaged in 25, 50, 100, 225\*, 250\*\* lb. drums.

Pfizer Citric Acid U.S.P. is available in these mesh sizes: granular, fine granular, fine granular xx (for confectionery use), powder. Packaged in 25, 50, 100 and 220 lb. drums.

Order Citric Acid from Pfizer today. Your most dependable source for nearly three-quarters of a century.

\*powder  
\*\*granular and fine granular

CHAS. PFIZER & CO., INC.  
630 Flushing Ave., Brooklyn 6, N.Y.  
Branch Offices: Chicago, Ill.; San Francisco, Calif.;  
Vernon, Calif.; Atlanta, Ga.



Manufacturing Chemists for Over 100 Years

## Pfizer

"I SAW IT IN THE AMERICAN"

March, 1953

57

**Pfizer CITRIC ACID**



**Nature's Acidulant** GIVES YOUR SOFT DRINKS  
AN AUTHENTIC, NATURAL TANGINESS!

Citric acid is nature's way of bringing out the full flavor of fruit. This is exactly the same kind of benefit your soft drinks get from Pfizer Citric Acid.

Pfizer pioneered the production of citric acid in America. Supplying the soft drink industry since 1880, the Pfizer name

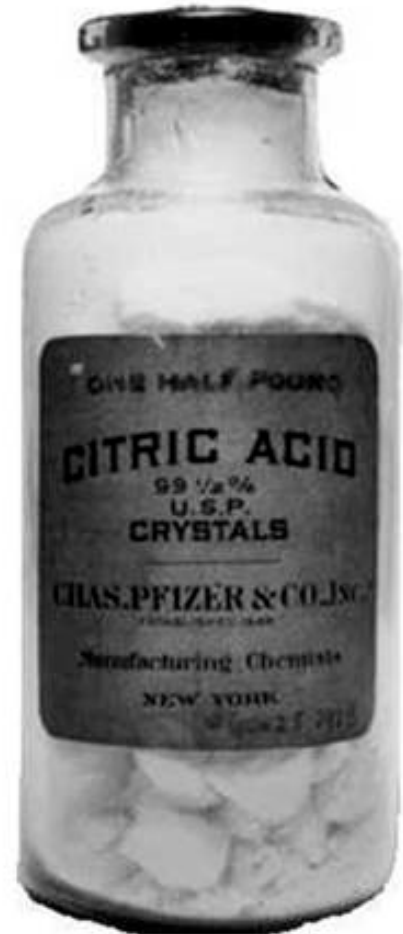
on the label is your assurance of highest quality and uniformity at lowest cost. Now, with warehouses strategically located throughout the country, you can rely on delivery where you need it and when you need it.

When it comes to citric acid, think of Pfizer first.

Science for the  
world's well-being

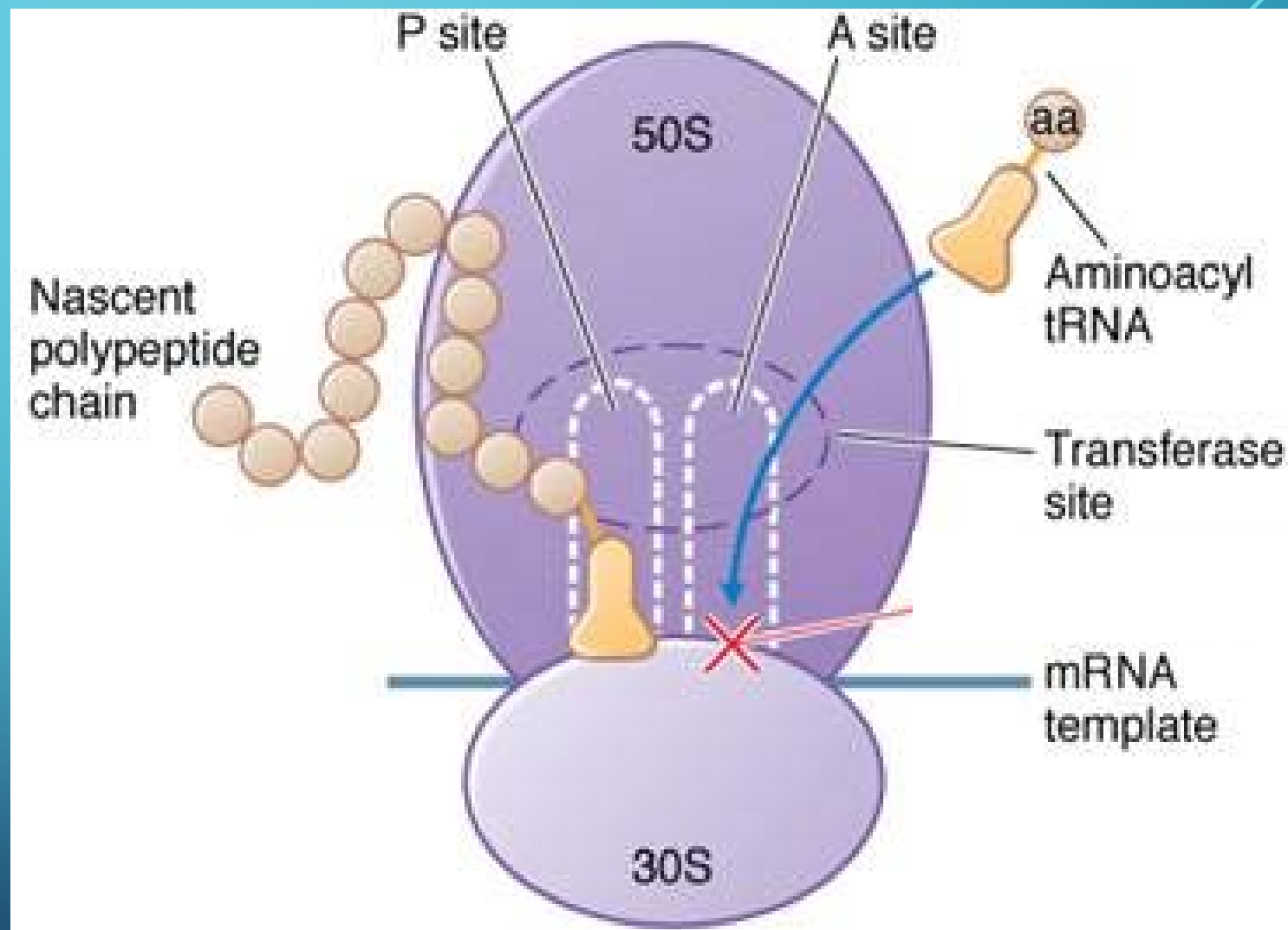
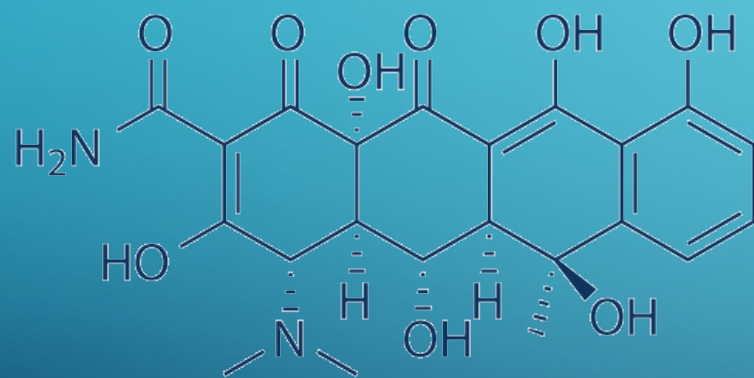
**Pfizer**

Quality Ingredients for the Food Industry for Over a Century  
CHAS. PFIZER & CO., INC. • Chemical Sales Division, 630 Flushing Avenue, Brooklyn 6, N. Y.  
Branch offices: Clifton, New Jersey • Chicago, Illinois • San Francisco, California • Vernon, California  
Atlanta, Georgia • Dallas, Texas • Montreal, Canada



# OXYTETRACYCLINE (TERRAMYCIN)


- Alternative to penicillin



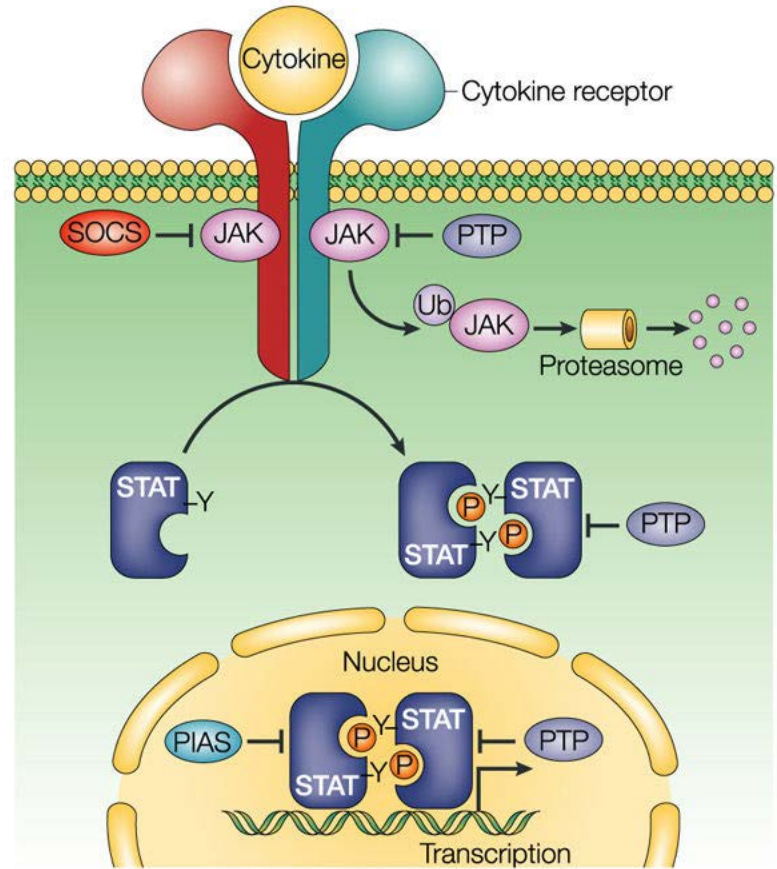




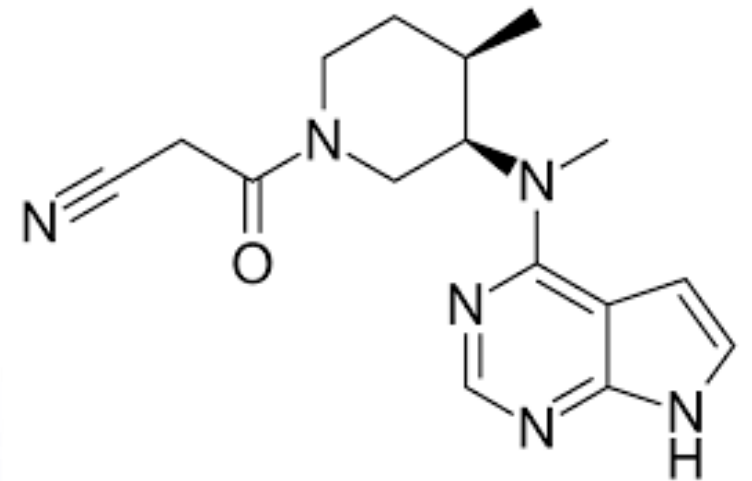
# INFLAMMATION & IMMUNOLOGY

- JAK inhibition
  - Immune tolerance – autoimmunity
  - Big data analysis
- 
- 

# JAK INHIBITION



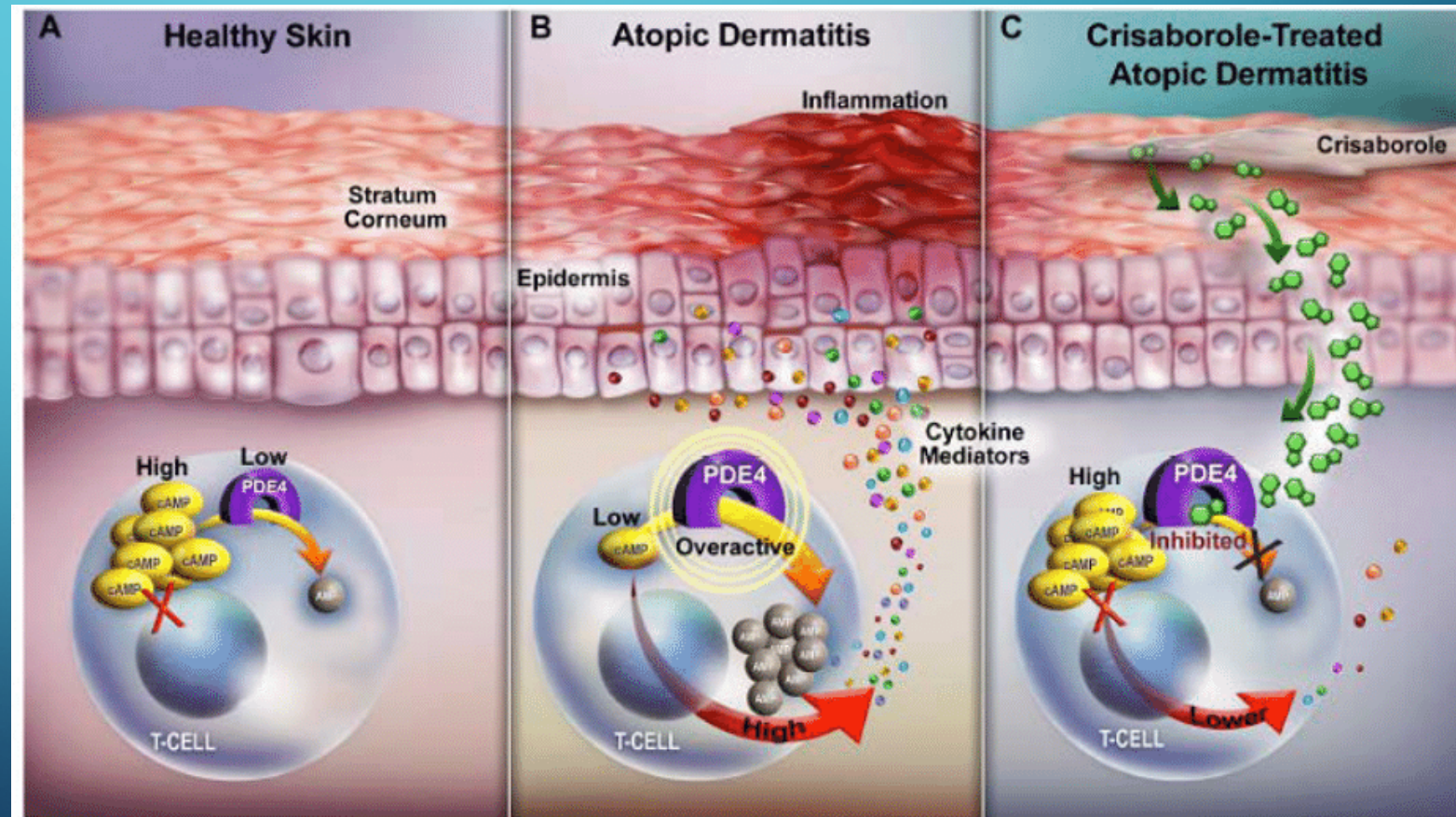
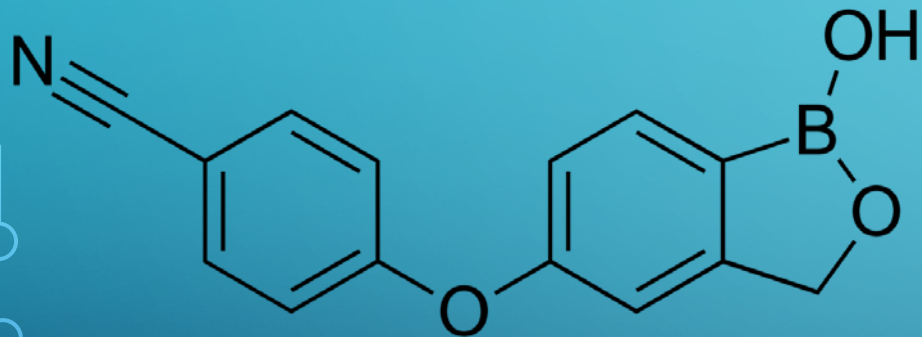
Nature Reviews | Immunology





# PDE4 INHIBITION




eucrisa<sup>TM</sup>  
crisaborole ointment 2%







## MY PROJECTS:

- Development and testing cell-specific assays with inhibitors
  - Developed set of experiments to test a new class of inhibitors
- 
- 
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# MY OVERALL EXPERIENCE

- Great diversity of projects in department
- Experiments could be very simplistic as long as they answered whether or not there is inhibition
- Fast-paced projects
- Projects are often abandoned if preliminary data is not strong
- Strong collaboration between the chemists and biologists