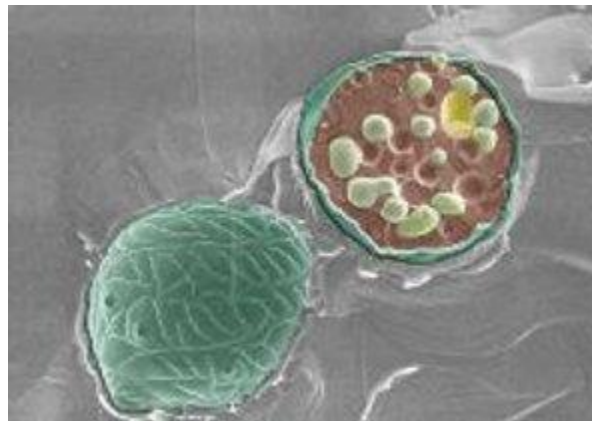
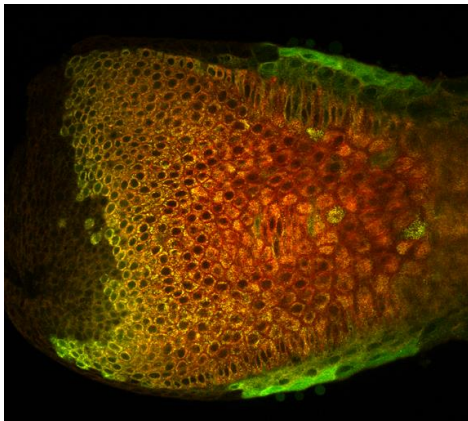
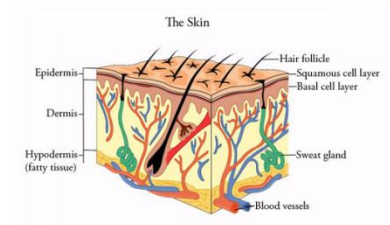


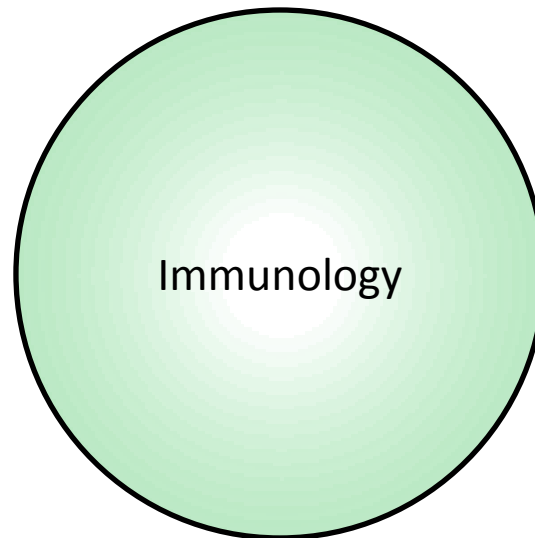
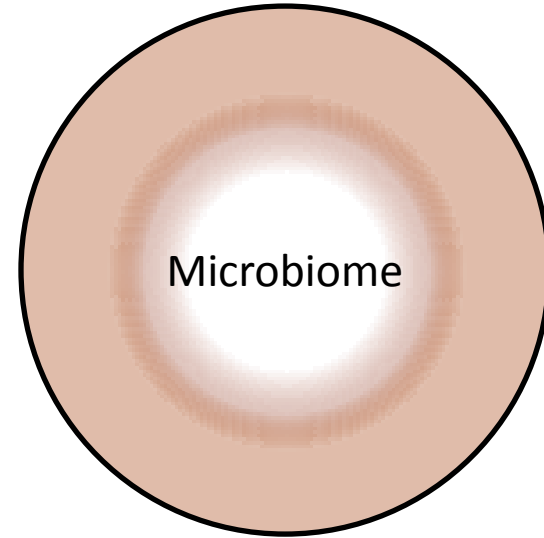
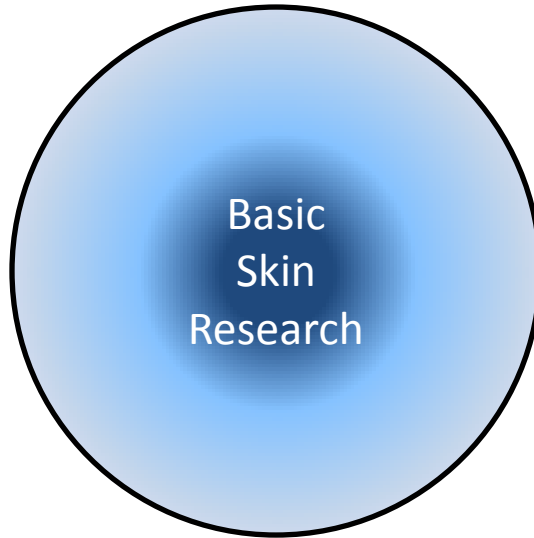
## To do and do not – Experiences in global and cross-functional collaborations in skin health and microbiome

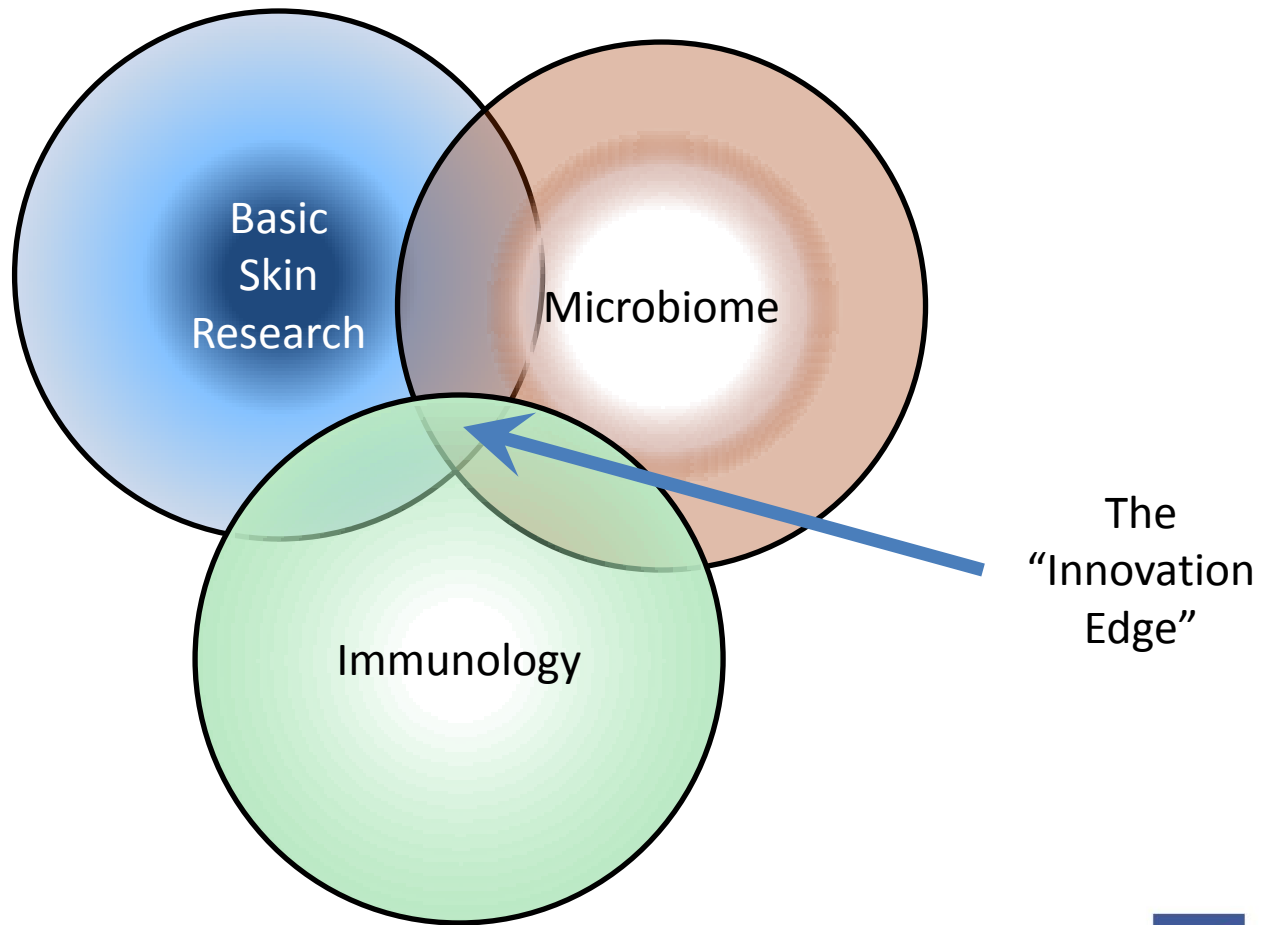


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An historical success story:  
The “*Malassezia* Research Consortium”

Built to develop technology to treat dandruff

- With no expertise
- No familiarity with the field
- Cause unknown





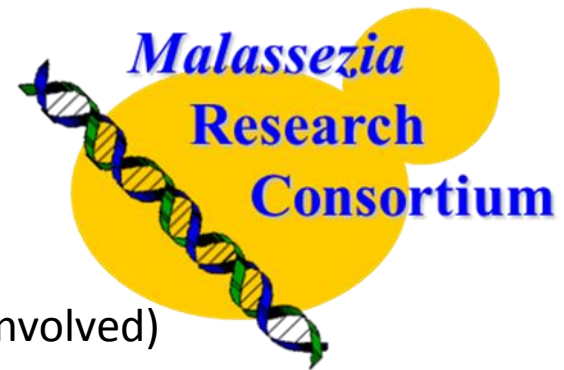
An historical success story:  
The “*Malassezia* Research Consortium”

How would you do this?

(Considering it looks like fungi may be involved)

- Find a fungal expert: XXX at the CBS Biodiversity Center
- Find a Dermatologist: XXXXX at the Toronto Medical School
- Find a biochemist: YYYYYY (in the lab upstairs)

Do some work...



Got a solid idea it's a specific fungus

Now what?

- Do the genome:  
Find a bioinformaticist: XXX from upstairs  
Find a sequencing facility: Integrated genomics

Do some work...



Got a solid idea it's lipids

Now what?

- Find a fungal lipids specialist: XXX at Augustana College
- Find a chemist: XXXX upstairs
- Find a medicinal chemist: XXXX, downstairs

Do some work...





Got a lipase inhibitor

Now what?

- Find a formulator: XXXX across the hall
- Find a clinical site: confidential
- Find an IP lawyer: YYYYY

Do some work...

**Repeat as necessary**



## The current MRC:

- Tom Dawson – team lead, general expert (IMB)
- Teun Boekhout – fungal ecologist, evolution expert (CBS)
- Annika Scheynius – immunologist (Karolinska)
- Joe Heitman – mating/virulence (Duke)
- Niranjana Nagarajan – bioinformaticist (GIS)
- Kaustav Sanyal – fungal chromosome segregation (JNC)
- Jack Kennell – mitochondrial genetics (SLU)
- Geraldine Butler – horizontally transferred genes and virulence (Dublin)

Some lessons learned in 20 years:

**Things that work:**

- Passion in a common area
- Divergent expertise
- Small egos

**Things that don't:**

- Money
- Limited interaction

Maybe the most important:

Agree to a research plan up front

- Who owns what
- Who is on the paper/patent
- Order of authors/inventorship/assignee



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MiniReview

*Malassezia* Baillon, emerging clinical yeasts

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the University of Toronto, Toronto, Ont., Canada

## Idornieic Dermatitiss and Danuruff

ul, Korea; †Beauty Care Technology Division, The Procter & Gamble Company,

l-3357  
17.2002  
1 Rights Reserved.



normal scalp,  
te, the surface  
(p: 0.08) for



Yeast Research  
www.fems-microbiology.org

### Correspondence

Dandruff and seb  
adversely affect h

## Product Pharmacology and M Therapeutic Benefits

James R. Schwartz

Beauty Care Product Development, The Procter & Gamble Company, Cincinnati, OH, USA

J Investig Dermatol Symp P



ls,



(11) EP 1 476 462 B1

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(54) NOVEL FUNGAL LIPASE  
NEUE LIPASE AUS PILZEN  
NOUVELLE LIPASE FONGIQUE

# Dandruff has an altered stratum corneum ultrastructure that is improved with zinc pyrithione shampoo

Ronald F



Boissy, BS,<sup>2</sup> and

(11) United States Patent  
Dawson et al.

(10) Patent No.: US 6,897,033 B2  
(45) Date of Patent: May 24, 2005

(54) FUNGAL LIPASE  
(75) Inventors: Thomas Larry Dawson, Hamilton, OH (US); Yvonne Marie DeAngelis, Cincinnati, OH (US); Kevin Robert Johnstone, Cincinnati, OH (US); Joseph Robert Kaczynski, Jr., Cincinnati, OH (US); Charles Winston Saunders, Cincinnati, OH (US); Richard Lee Walker, Jr., Hamilton, OH (US)

6,020,100 A 3/2000 Swanson et al.  
6,080,210 A 3/2000 Bennett et al.  
6,132,210 A 9/2000 Breen et al.  
6,287,952 B1 7/2001 Maeda-Oh, H et al.  
6,326,161 B1 12/2000 Walker et al.  
6,337,087 B1 1/2002 Kapellou Liberman

FOREIGN PATENT DOCUMENTS  
WO WO 99/01711 A1 3/99

OTHER PUBLICATIONS

(73) Assignee: The Procter & Gamble Company, Cincinnati, OH (US)  
(\*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(d) by 0 days.

Murray et al., Accession No. AC30709, Database GenBank (National Library of Medicine, Bethesda, MD), Jan. 2002.  
Gupta, A.K., et al., "Molecular Differentiation of Seven *Malassezia* Species", *Journal of Clinical Microbiology*, pp. 380-387 (May 2000).  
Mancioni, F., et al., "Extracellular Enzymatic Activity of *Malassezia* spp. Isolated", *Mycopathologia*, vol. 149, No. 3, pp. 131-137 (2001).  
L.J. Parkin et al., Characterization of the Lipase Activity of *Malassezia* ferulae. 1996 ISHAM, *Journal of Medical & Veterinary Mycology* 1996, 34, 43-48.

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(22) Filed: Feb. 19, 2003  
(45) Prior Publication Date  
US 2003/015881 A1 Aug. 21, 2003

Primary Examiner—Elizabeth Slobodanov

Antimicrobial Agents  
and Chemotherapy

Zinc Pyrithione Inhibits Yeast Growth  
through Copper Influx and Inactivation of  
Iron-Sulfur Proteins



US007101889B2

(12) United States Patent  
Kaczynski, Jr. et al.

(10) Patent No.: US 7,101,889 B2  
(45) Date of Patent: \*Sep. 5, 2006

(54) LIPASE INHIBITING COMPOSITION

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FOREIGN P:  
DE 199 21 794  
EP 0 117 632  
EP 1 048 288  
WO WO 95/01155  
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(73) Assignee: The Procter & Gamble, Cincinnati, OH (US)

OTHER

### CHAPTER 12

# Dandruff and Seb Dermatitis: A Head Scratcher

James R. Schwartz, Yvonne M. DeAngelis, and  
Thomas L. Dawson, Jr.

Fast, Noninvasive Method for Molecular Detection and Differentiation  
of *Malassezia* Yeast Species on Human Skin and Application of the  
Method to Dandruff Microbiology

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