

ASILOMAR RETREAT
PROGRAM SCHEDULE

Please note: all sessions held in Nautilus Meeting Room in the Sea Galaxy complex

Sunday, November 6th

Afternoon Meeting Session

2:00 p.m. to 4:00 p.m.

Welcome by Ron Kopito

Moderator: Lenore Urbani

	Speaker	Lab	Talk
2:10 p.m.	Virginia Walbot		Introduction
2:20	Ann Stapleton	Walbot	Damage control: Maize responses to ultraviolet radiation
2:40	Kathy Marrs	Walbot	Bronze-2: a glutathione s-transferase involved in the transfer of anthocyanins to the vacuole
3:00	BREAK		
3:20	Alan Lloyd	Walbot	Patterns of epidermal cell fate determination in <i>Arabidopsis</i> defined by maize regulators
3:40	Mike Simon		Flies and eyes
4:00	SESSION ENDS		

Check-in & Free Time

4:00 p.m. to 6:00 p.m.

Dinner

6:00 p.m. to 7:00 p.m.

Evening Meeting Session

7:15 p.m. to 8:25 p.m.

Moderator: Philippa Webster

	Speaker	Lab	Talk
7:15 p.m.	Bruce Baker		Introduction
7:25	Greg Bashaw	Baker	Positional cloning of <i>msh-2</i> in <i>Drosophila</i>
7:45	Volker Heinrichs	Baker	The <i>Drosophila</i> SR protein RBP-1 regulates alternative splicing of <i>doublesex</i> pre-mRNA by recognizing RBP-1 RNA target sequences
8:05	Lisa Ryner	Baker	Cloning and characterization of <i>fruitless</i> , a gene controlling male sexual orientation in <i>Drosophila</i>
8:25	SESSION ENDS		

8:45 p.m. Party



Monday, November 7, 1994

Breakfast 7:30 a.m. to 9:00 p.m.
Morning Meeting Session 8:50 a.m. to 12:00 noon
Moderator: Todd McGee

	Speaker	Lab	Talk
8:50 a.m.	Ron Kopito		Introduction
9:00	Yue Ding	Kopito	Interaction of ankyrin with the plasma membrane anion exchanger, AE1
9:20	Joe Casey	Kopito	Cysteine-specific chemistry to study anion exchanger structures
9:40	Barbara Block		Introduction
10:00	Jens Franck	Block	Cloning and characterization of the ryanodine receptor in fish
10:20	BREAK		
10:40	Jon Kuhn	Campbell	Subunit recognition in bacterial luciferase
11:10	Bob Simoni		Introduction
11:20	Susan Sather	Simoni	Translational regulation of HMG-CoA reductase synthesis
11:40	Ted Meigs	Simoni	Inhibition of DNA replication by an analogue of a cholesterol pathway intermediate
12:00	SESSION ENDS		

Lunch 12:00 noon to 1:00 p.m.

Free Time 1:00 p.m. to 3:00 p.m.

POSTER SESSION 3:00 p.m. to 6:00 p.m.

Dinner 6:00 p.m. to 7:00 p.m.

Evening Meeting Session 7:30 p.m. to 10:10 p.m.
Moderator: Kevin Gunderson

	Speaker	Lab	Talk
7:30 p.m.	Chris Somerville		Genetic dissection of membrane synthesis and function in <i>Arabidopsis</i>
8:00	Bob Schimke		Life, death, and genomic change
8:20	Dong Yin	Schimke	Use of tetracycline promoter constructs
8:50	BREAK		
9:10	Paul Macdonald		Introduction
9:30	Joan Wilson	Macdonald	What does eggplant have to do with posterior body patterning in <i>Drosophila</i> ?
9:50	Craig Smibert	Macdonald	Regulation of <i>nanos</i> translation
10:10	SESSION ENDS		

Tuesday, November 8, 1994

Breakfast

7:30 a.m. to 9:00 p.m.

Morning Meeting Session

9:00 p.m. to 12:00 noon

Moderator: Maria-Inez Benito

	Speaker	Lab	Talk
9:00 a.m.	Phil Hanawalt		DNA repair and transcription converge
9:20	David Koehler	Hanawalt	The nucleoskeleton and DNA repair
9:40	Tim Stearns		Genetics and cell biology of the cytoskeleton
10:00	Becket Feierbach	Stearns	Regulation of cytokinesis in <i>Saccharomyces cerevisiae</i>
10:20	BREAK		
10:40	Martha Cyert		Examining the physiological functions of calcineurin in yeast
11:00	Jim Withee	Cyert	Characterization of mutations which suppress multiple phenotypes of calcineurin
11:20	Sharon Long		Introduction
11:40	Michael Willits	Long	Growth-rate dependent regulation of <i>nodPQ</i> and <i>nodPQ2</i> in <i>Rhizobium</i>
12:00	SESSION ENDS		

Lunch

12:00 noon to 1:00 p.m.

RETREAT ENDS

1:00 p.m.



ANN STAPLETON

① UV RESPONSE IN PLANTS

② PROTECTION

① shielding

② repair

} - also polyploidy
- what about plasticity

③ SHIELDING

① Flavonoids

- absorb UV ; induced by UV ; found in epidermis

- pink lines

- +/- flavonoids

- - - what are these mutations

- UV irradiate - - more damage in = flavonoids

④ what happens to damage?

- some repair in light in mt, cpst, nuclear

HOEIJMARRERS & BOOTSMA

LOCKAYNES

CSA

CSB

} DEFECTIVE IN TXCR

XPB (2 OUT OF 3) - HAVE CS

XPB } - ALWAYS CS ; SOMETIMES TTD

XPD } -

R. Marris



R-root hairs
- trichomes
- Althacyparin



M. Simon

severles - tyrosine receptor kinase
binds to severles - ligand

Cooperates to determine cell fate of
one of photoreceptors in eye

Problems

...many tyrosine kinases use the same pathway
& mutants might be lethal due to other
pathway problems

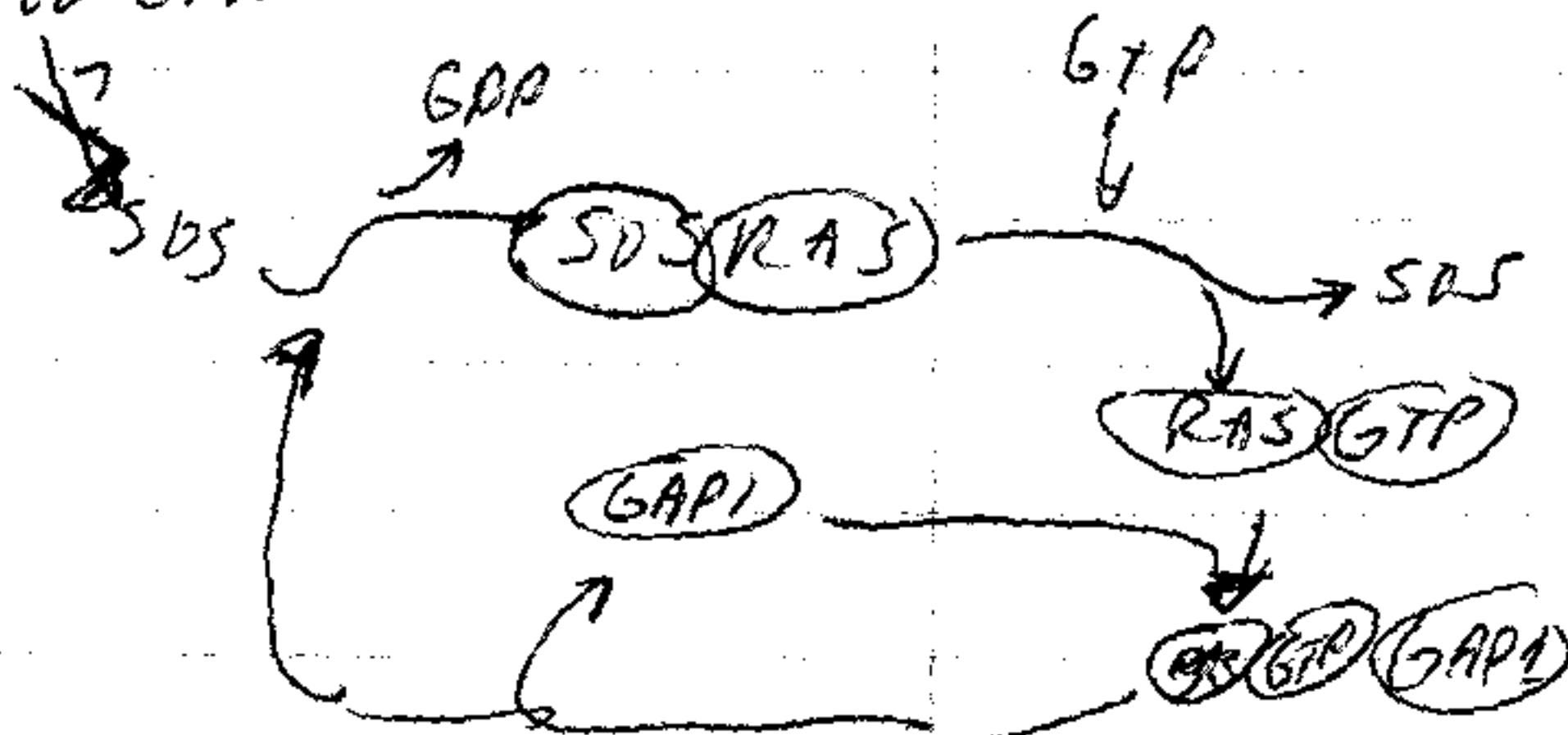
...so use a mutant in severles that
is ts so that mutations ~~in other pathways~~
would affect severles pathway more
than other pathways & can get
mutants

Severles mutants

① RAS

② Son of severles = RAS GDP \rightarrow RAS GTP
= homologous to CDC25

severles



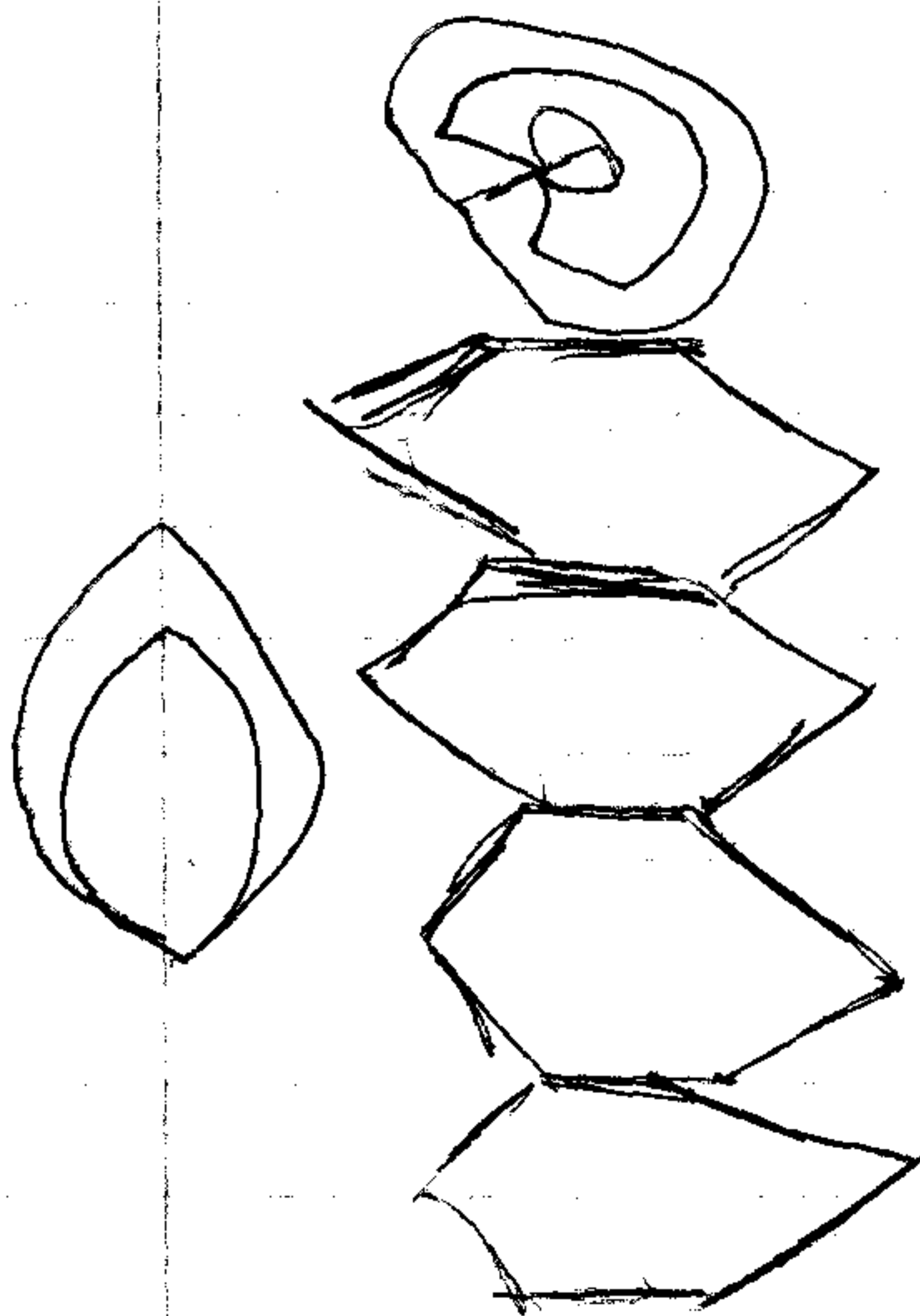
Other genes DRK & Corkscrew

DRK = similar to GRAB2 & SEM5

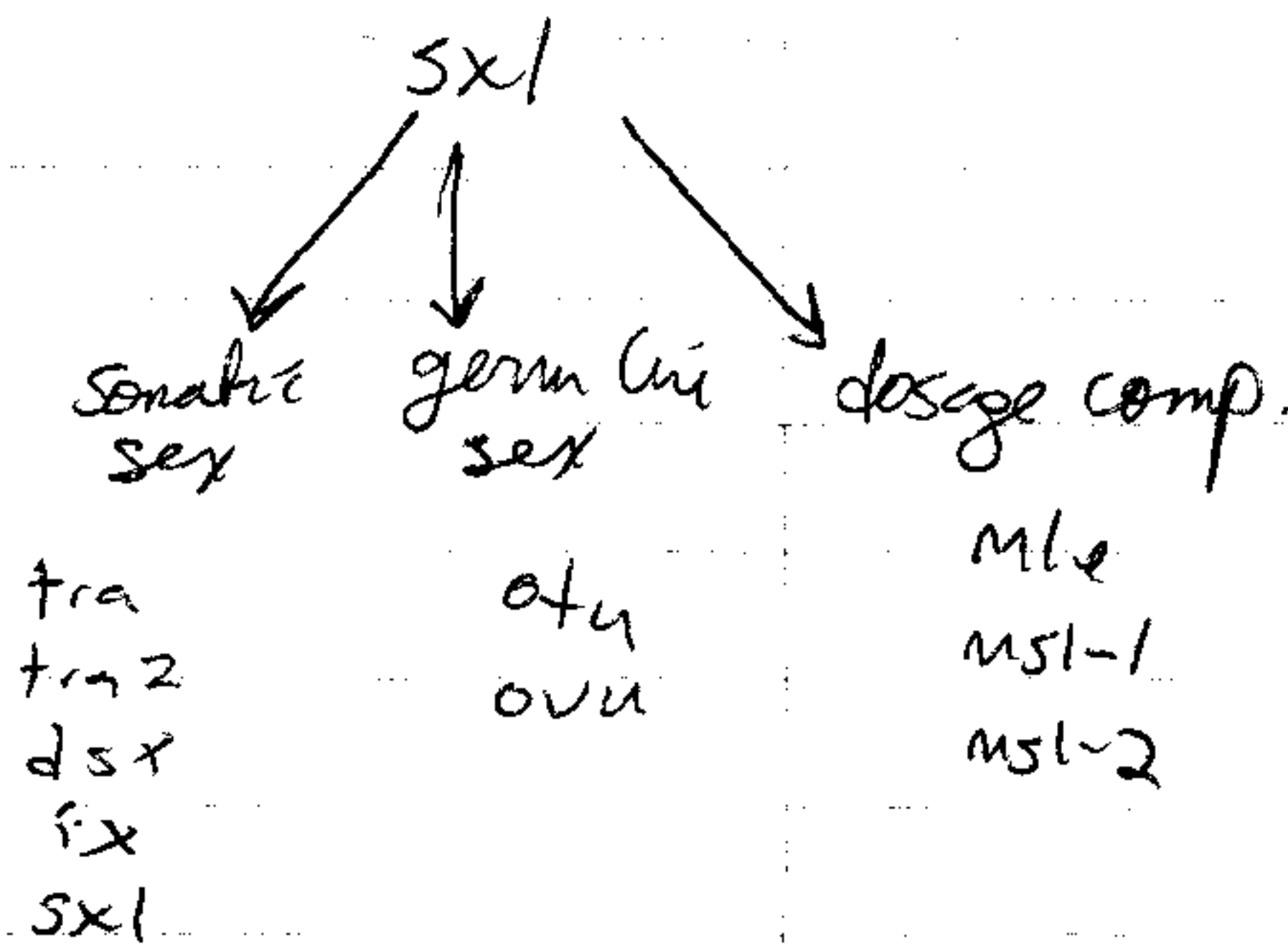
• contains SH2 domains (binds phosphotyrosine)

• contains SH3 domains (binds proline)

CSW = corkscrew



Sexual Development



Greg. Bashaw

1

- Mammals - inactivate female X
- C. elegans - decr. tx of both ♀ X
- D. melanog - incr. X tx. in ♂

MSL1

- specifically associate w/ ♂ X chromos.
- only assoc. if all Y are w/it

MSL2

- cDNA rescue might not have right specificity

RBP1

D. melanog. splicing factor



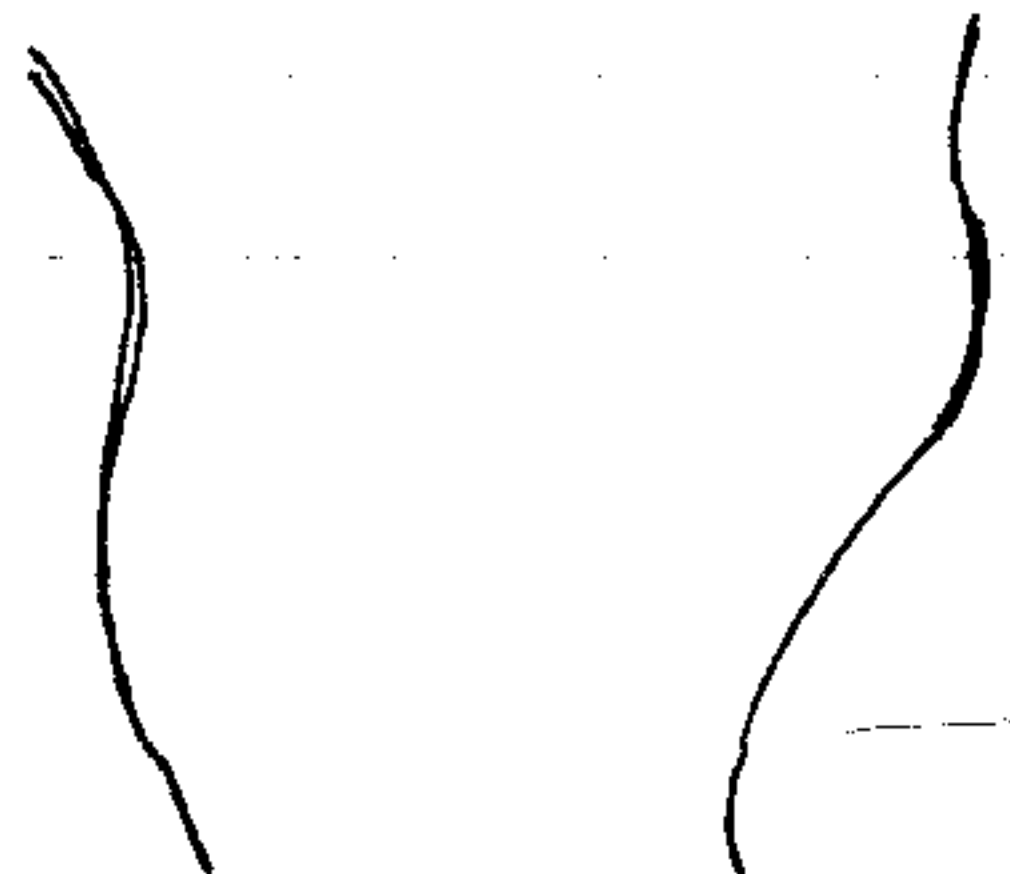
Probably affects DSK splicing

USA

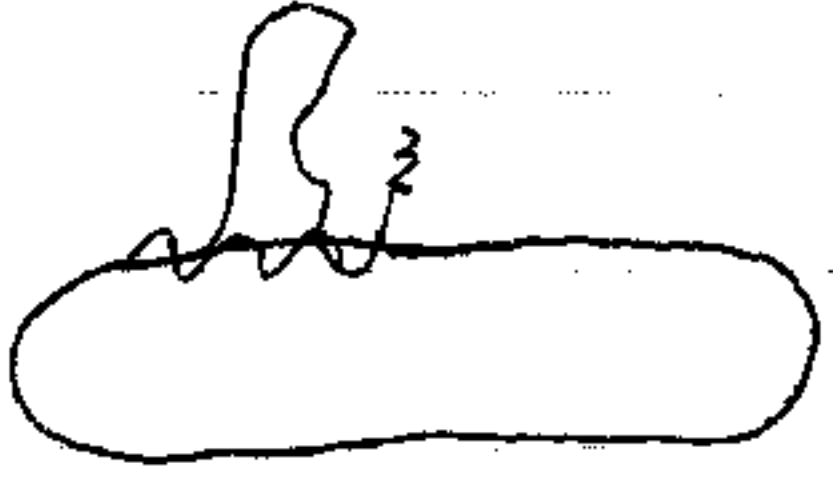
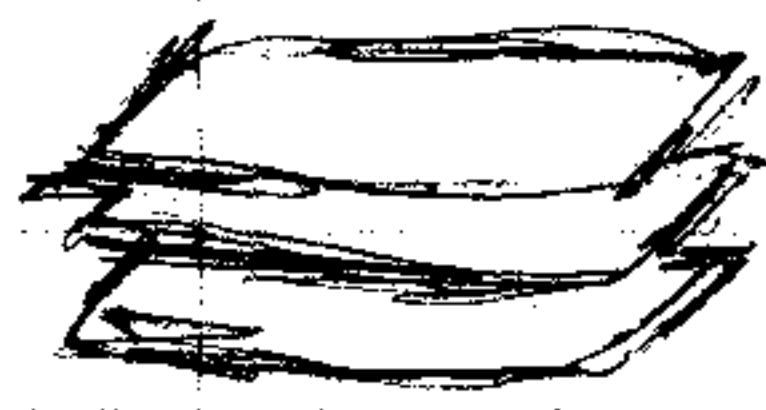
Fruitless

- cloned DNA contains 13 mer repeats
- maps to fruitless locus
- \rightarrow can't distinguish σ 7 from σ 9

— why not use
N in linker



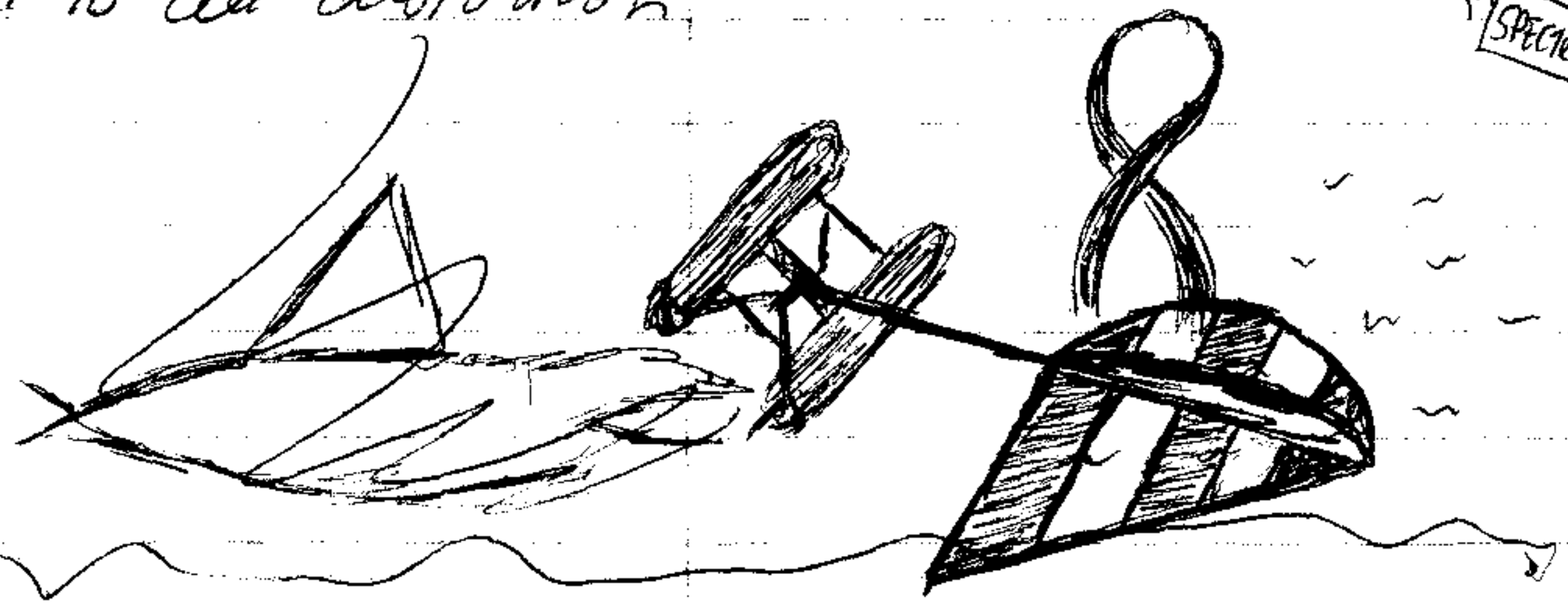
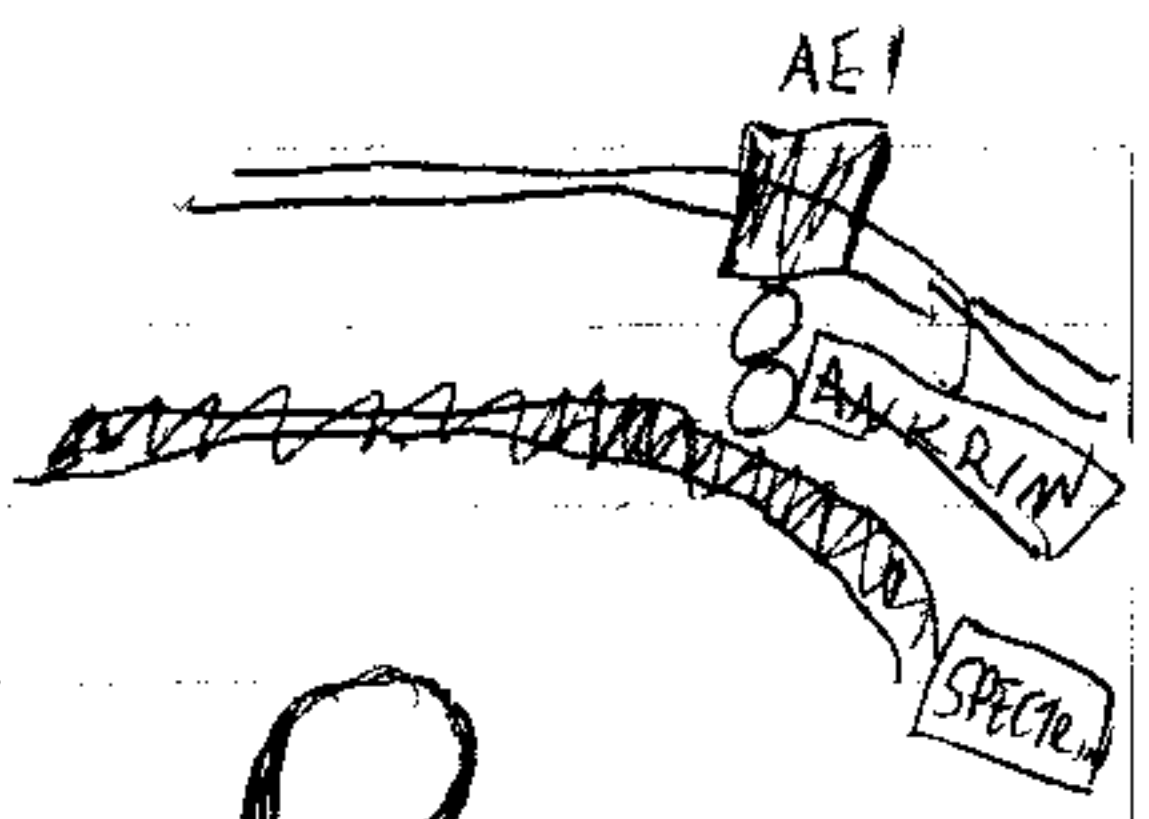
KOPITO



- cotranslationally inserted & glycosylated
- chaperonins help fold it

YUE DING

- AE interaction w/ ANKRIN
- mutation in any of these
lead to cell distortion



B. Block

ENDOTHERMY

BIRDS } ALL ENDOTHERMIC
MAMMALS }

FISHES - DERIVED TRAIT

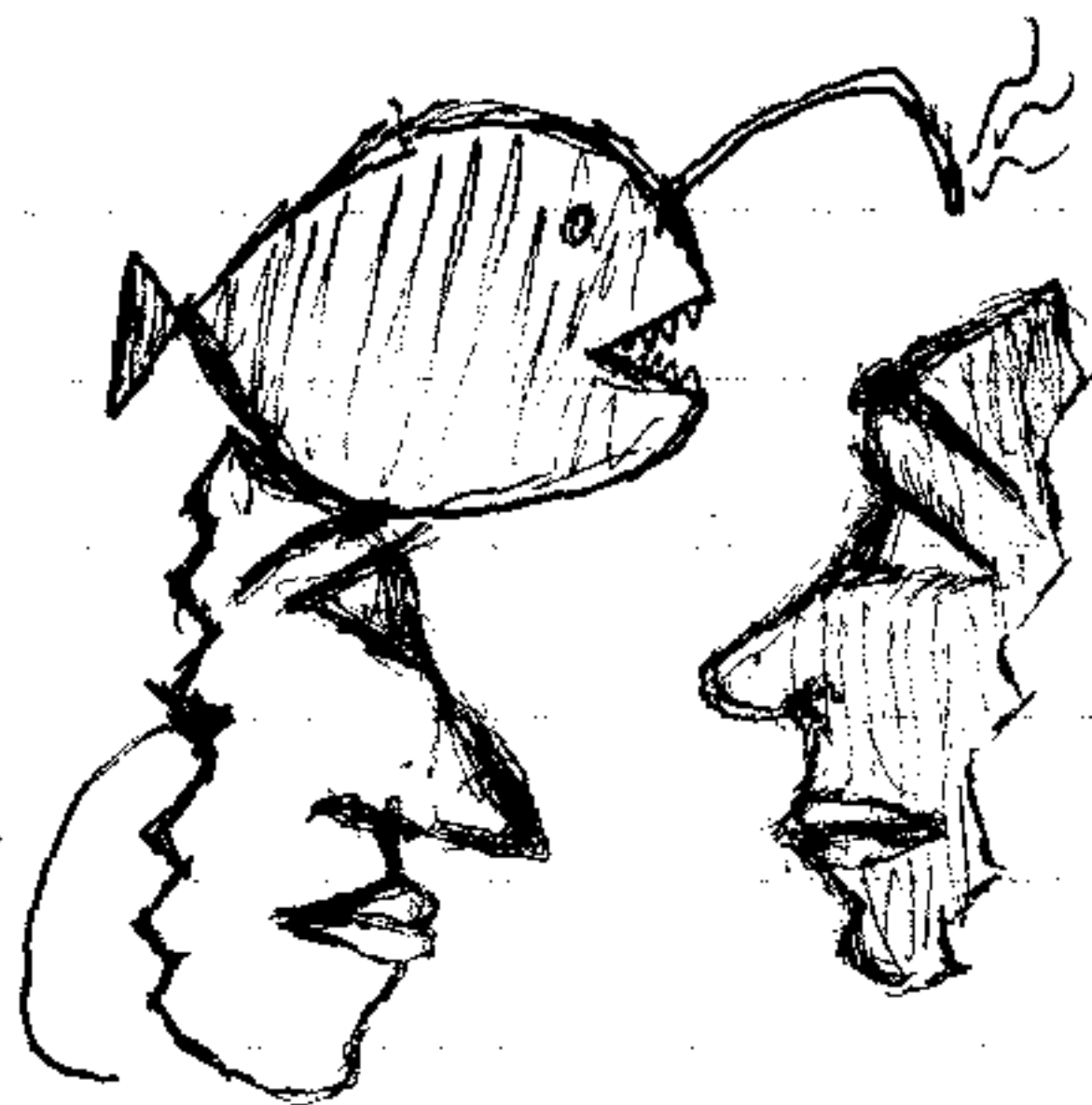
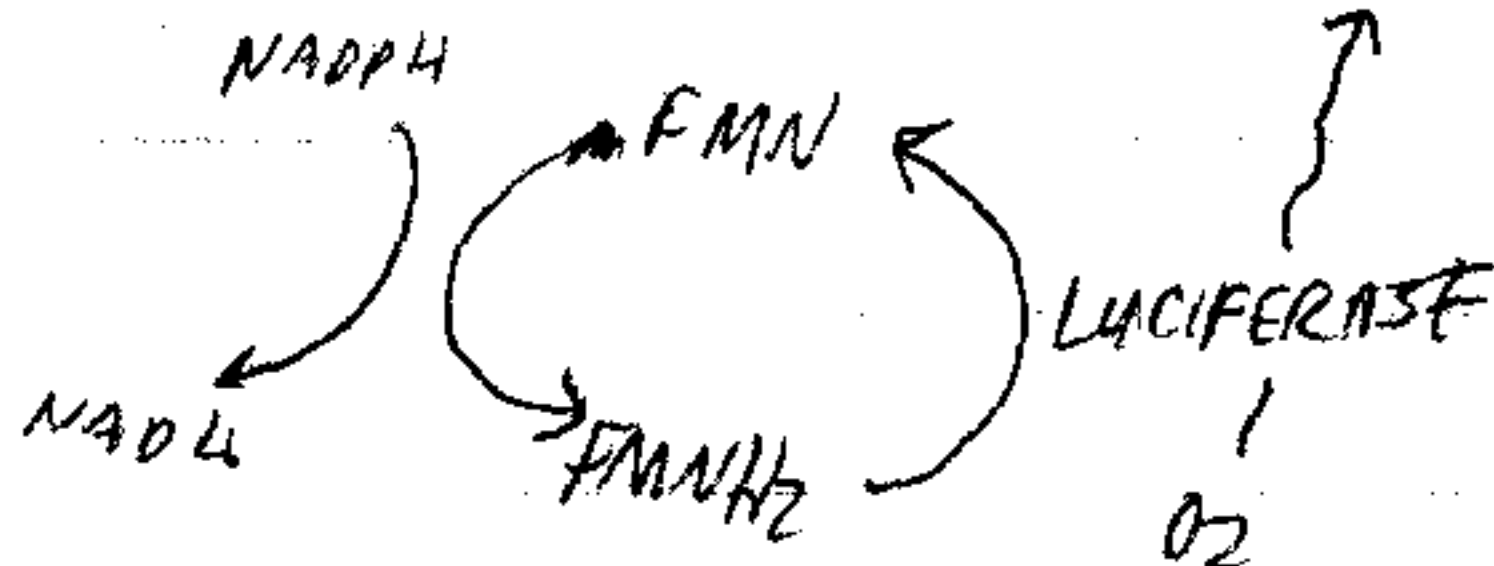
HOW IS HEAT GENERATED?

- FISH -
- IN MARLINS THERE IS A HEAT ORGAN
- MAKES HEAT W/O SHIVERING



Jon Kuhn

Ecoli w/ luciferase



LUCIFERASE

- LUXA & LUXB
- FORM COMPLEX THAT IS HETERODIMER
- HIGHLY CONSERVED IN VIBRIO SPECIES

	α_H	α_F	α_L	α_P
BH	+	-	-	-
BF	+	+	+	+
BL	+	+	+	+
BP	+	+	+	+

activity

H = Harveyi
 F = Fischeri
 L = Leognathis
 P = phospharium

- so why doesn't BH work w/ other α_s

MAKE HYBRIDS

SIMONI
LDL receptors
-homeostatic

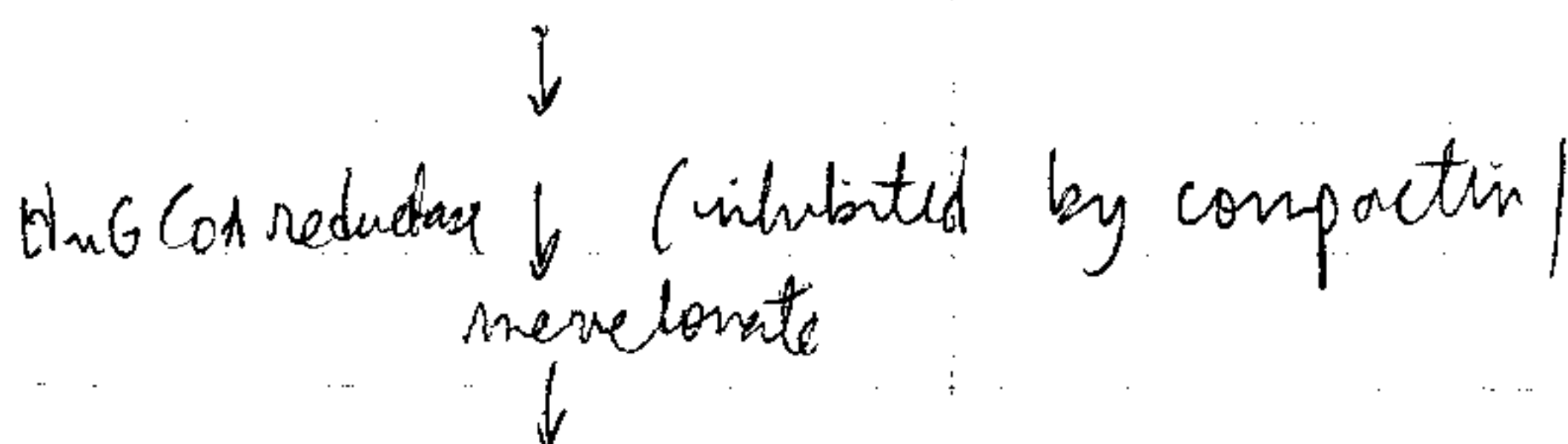


S. Sather - Translational Regulation of
HmG CoA synthase Reductase



TMöigs DNA Replication

- Add compactin - cells blocked at G1-S
- Add exogenous methionate this block overcome



- Farnesyl acetate has similar effect but more extreme & not reversible

~~growth~~

FA

- Tx in G1 - cells die
- S - cells progress through a little
- G2 - cells progress

- FA doesn't affect protein synt. as much as protein synthesis

MUTANTS

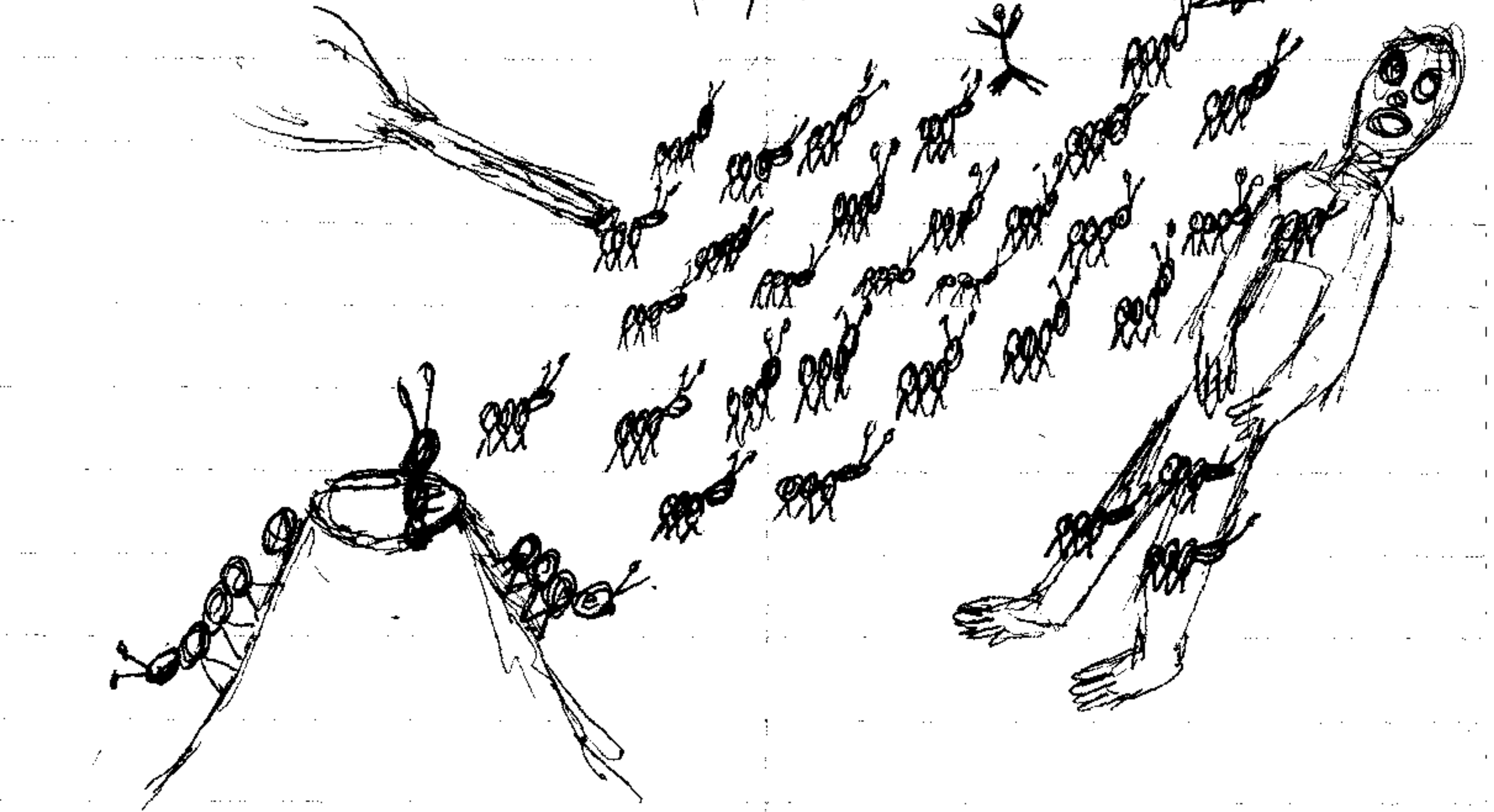
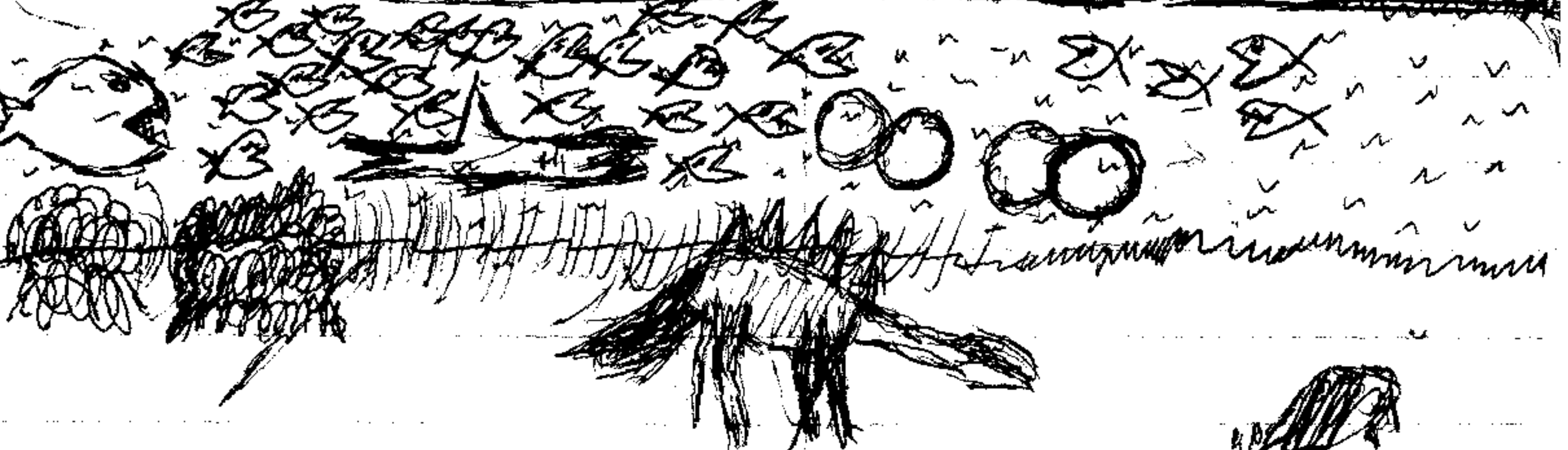
~~growth~~



Why are there so many

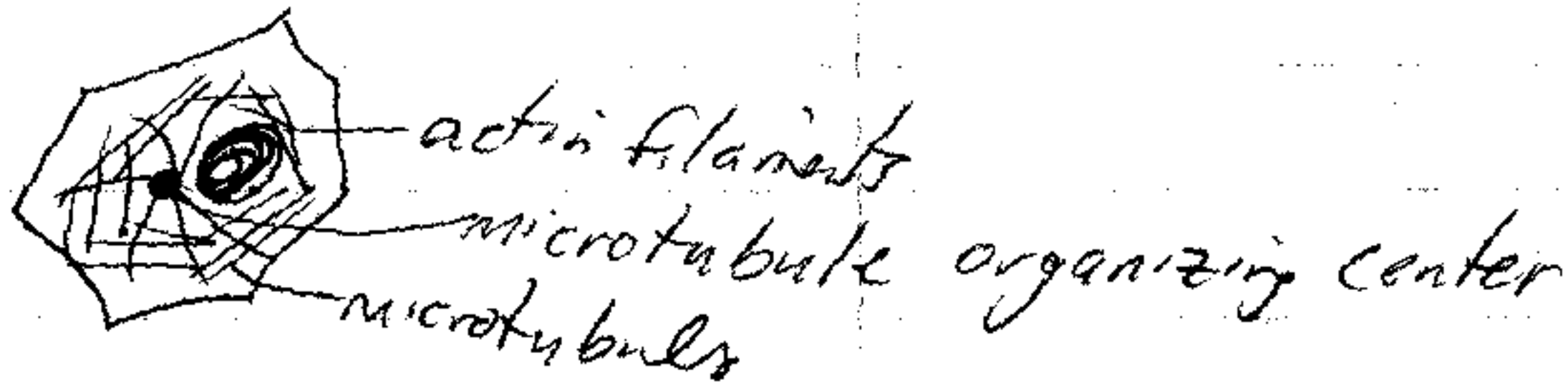
Songs about rainbows?

2096 CIV

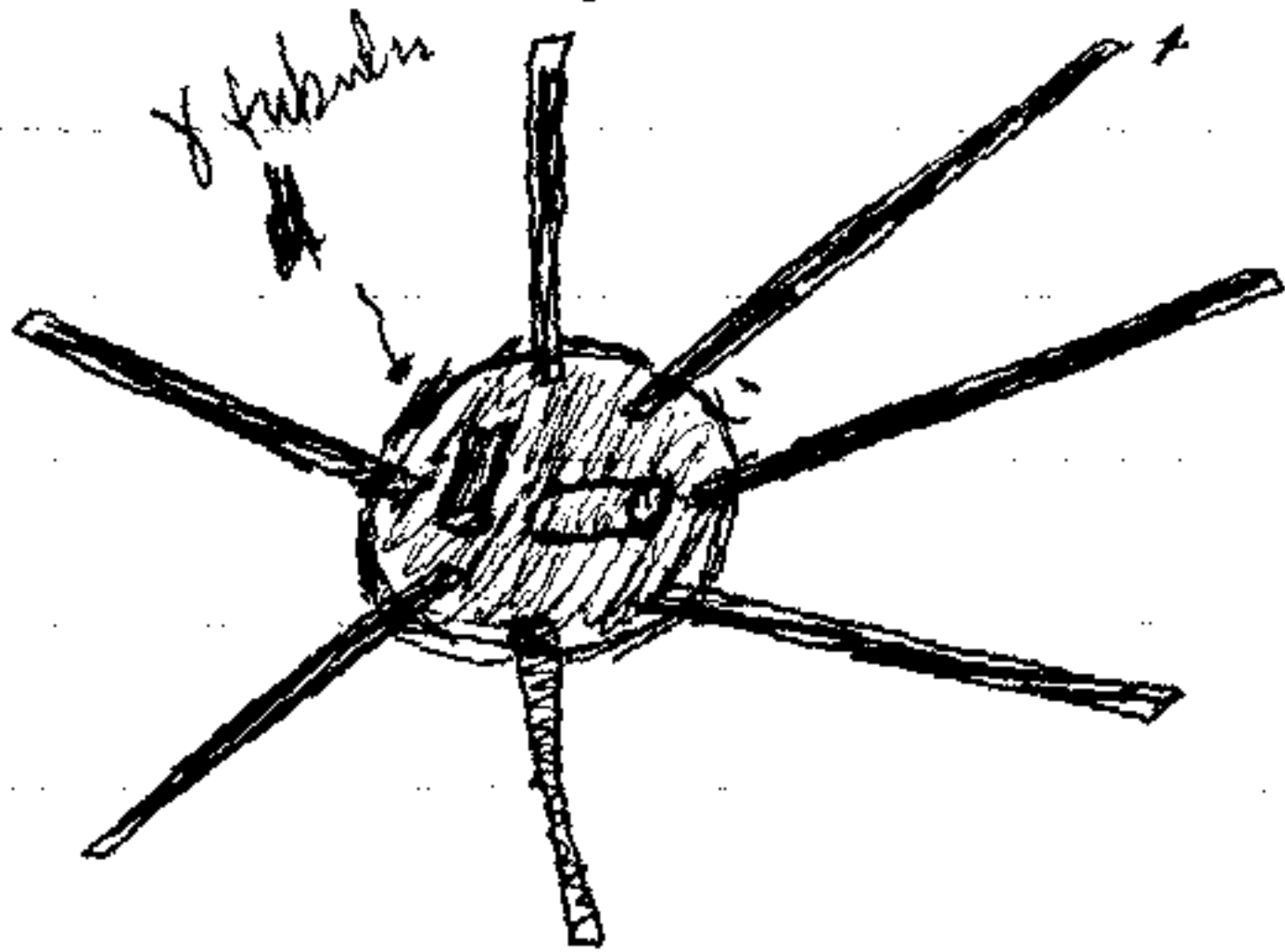


TIM STEARNS

① cell polarity



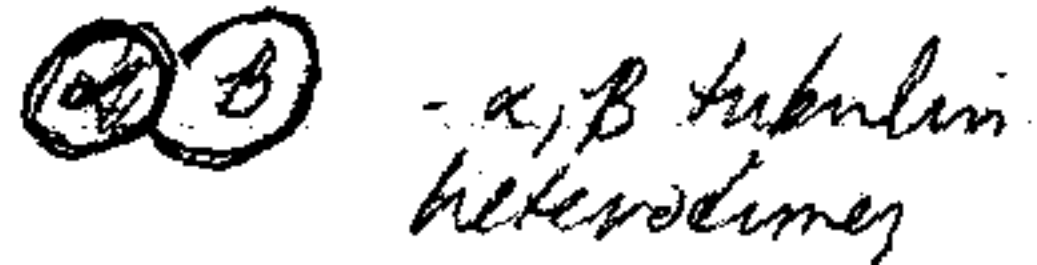
Centrosomes



functions

- anchor
- microtubule nucleation
- duplication

Microtubules



- α, β tubulin heterodimers



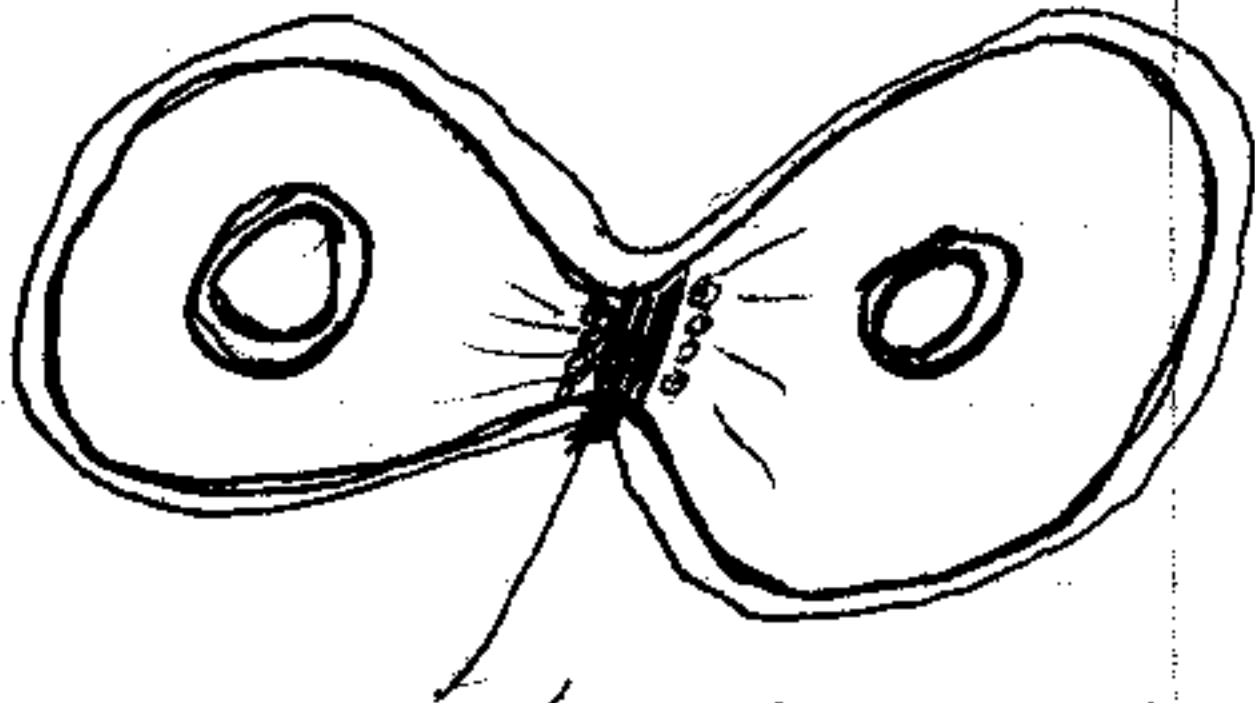
- form package of filaments

Components

- gamma-tubulin
- v. highly conserved
- yeast MAY have a version
- required for viability in pombe

Becket Feierbach

CDC3, 10, 11, 12 - involved in cytokinesis



neck, CDC3, 10, 11, 12 form ring around neck

MPM2 - binds to neck ✓
- colocalizes w/ CDC11

but what about
some others

Martha C.

Review!

LOOK AT ME
IN MARTHA C.

cnal c.

Calcineurin in Yeast

cnb1

cnal cnb2 - inter usable

cell wall synthesis gene @ Moxik

Mike W - NODP & Q

E. coli

NODP Q - ATP sulfurylase

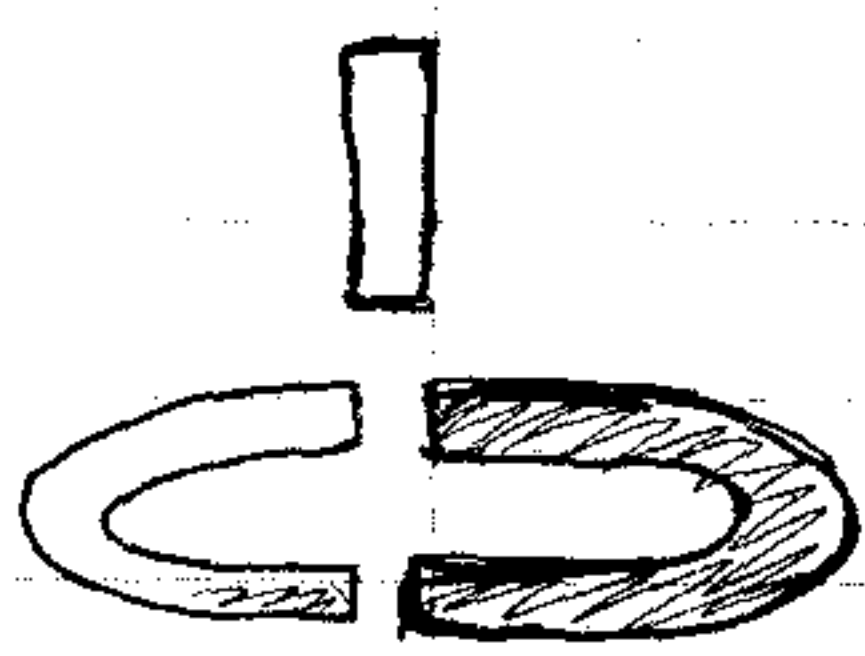
CY50N

NOD Q - APS Kinase

CY5C

PQ₁

PQ₂



WATSM.SAR

