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Y10 276,284,285,287
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LYOPHILIZED STOCKS Sept. 9, 1947

E. coli K-12 & 58 derivatives:

K-12	wild
58	desthiobiotin
58-161	" - methionine
-178	Y.E.
-278	Ph alanine
-309	cystine
-336	isoleucine
-580	thiamin
- 593	thiazole
-610	thiazole
-741	histidine
-2651	proline
-3214	proline
-3232	"
-3356	meth
4447	?
4899	ph.alanine
5030	tyrosine
5255	proline
5273	adenine
5298	indole to Harris
5417	uracil
5450	proline
5580	A.A.
5631	adenine, guanine
5636	indole
5898	methionine
6049	proline
6177	"
6313	threonine
6314	Ph. alanine
6317	proline (glut.)

E.coli 679 and derivatives:

679	threonine
" 183	?
440	?
447	?
455	?
662	glutamic acid
680	?
684	?

E.coli Lampen strain 15 derivatives:

L-1	
L-2	
L-3	arginine
L-4	meth.
L-5	threonine
L-6	proline
L-7	lysine
15 L-171	"
18-15 L 171	methionine
66-489	lysine

E.coli B

A-1
A-2 (7-415)
B/R
-R
T

E-coli Yale mutants :

all Y-

1	(ATCC 6522)	proline
2	" "	meth. SA -resistant
3	(L-15)	leucine or isoleucine
4	"	" " "
5	"	" " "
9		threonine, leucine, pab
10		" " B1

... For continuation of this list, see Y list)

BOIVAN C1
C2

B. subtilis

hist

Staph. flavocyanae

Shigella Hu (Hutner) uracil

79-30-2 (Weil) Flexner V
66-1-410 " " II

SALMONELLA

S1	paratyphi A	meth, tryp
S4	cholera suis	meth
S20	typhi'murium (IV? V? i..)	monophasic phase 1 +
S36	gallinarum	B1
Su	S 37 dublin	B1
S42	paratyphi A	tryp
S45	enteritidis	ornithine
S-50		
S-51		
S-52	paratyphi B	req?
S55	cholerae suis	tryp+cysti
S-56	" "	tyrosine, biotin
S-61	typhimurium	IV variant meth
S70	"	--SH

ACETOBACTER M.A. 11 series:

A	M.A. 6.1 (11.1)		+
	11.2	90	serine or gly
	.4	236	glycine
	.5	318	leuc

PHAGE

T-1
T-3
T-4
T-5
T-6
T- 7

Phytomonas tumefaciens

Proteus D
14
3 : - 38 -57 -63
39 58 65
40 61 66
44 62 74

available at Yale

STANFORD NEUROSPORA BIOCHEMICALS:

1A	+	
25a	+	
193A	pab	
299	sitophila: B_6	
605a	serine	
830A	pab	
1090	sitoph: thiazole	
1298 A	uracil	
1633 A	pab	
"-15300	A,a	
-4894	a	pab-meth
3416a	nic	
4540A;	a	nic
-10575		nic-tryp a
4545	A,a	lysine
"-5531		"-pan
-15300	A,a	-al
-37401	A,a	-inositol
4637	A,a	alb-1 (transl)
4711	a	isoleuc,& valine
4894	a	meth.
-15300	A,a	
-34608	A,a	aurescent
-37401	a	inos
5359	A,a	pab
5531	A,a	pan
-4540	A	n ic
-15300	a	
-37401	A	
5801	A	scumbo
8839-4637	A	leucine
9185	A	B1
10575	A	tryp
-37401		"-mic
15300	A,a	
16117	A,a	isoleuc,val.
17084	a	pyrimidine & thiaz.
-37803	a	- B6
-44602	a	- "
18558	A	thiazole
-34486		-choline
21848	A	pab
21850	A	"
21863	A	proline
27947	a	arginine
29997	a	"
30300	a	"
33026	a	valine
33050		valine A
33757		leuc A,a
"-4637	A	
-15300		A
34486		chol. a
"-15300		a
-34508		A,a
-37401		A,a
34547		tryp A
35307		pab A
35420		tryp a
35810		isoleuc,val. A
36115		pab A
36607		tryp a
36703		arg. a
37401		inos A,a
-5531		A,a
-"-15300		A
37803		B6 A
37906		tryp A
37907		" A
38113		pab A
38704		valine ? A
38722		tryp a
39113		nic A
39115		tryp A
39303		nic a
39501-1452		val,tryp? a
39701		tryp A
39705		isoleuc,val a
39709-4637		" " A
39801		tryp a
40008		" A
43302		nic A
44008		tryp a
44008-65001		"
44020		" a
44210		" a
44602		B6 A
"-37401	A,a	
44706		tryp A
44707		" A
44801		nic a
44802		" a
45210		tryp A
45217		" A
45219		" a
45302		" a
45303		" a
45304		" a
45503		" a

Misc. Neurospora:

S6201	val ?	A
~~XXXXX 25~~	~~x~~	~~x~~
Abbot 4	+	A
A" 12	+	A
Chilton	+	a
SY	+	A,a
E 5297		a
977 R L		a

N. sit: Sands PC A
H.SS F.28 PC a
56.7 PC a

N. tetra. S9

4545-5531-15300
51602-4545-37401-15300
" -5531- " "
10575-37401-15300
G 27 A al-pan-inos-B2-tryp
G 37 a

New Yale mutants:

Y-14927	lys	a
-16050	col.	A
16059	lys	A
16424	aden	a
16329	pa alan	A
16349	cyst,meth	a,A
16351	aden, hypox.	A
163 67	cyst,meth	A
16479	pab	A
16446	inos	A
16603	meth, ~~xxxx~~ cyst	A
16631	adenine	A
16744	meth	A
16470	leuc.	A
16641	meth	
16695	pan	A
16644		A
16747	meth	A
16730	aden, hypox	A
16796	pab	

Penicillium

3169	proline
4769	histidine
6155	arginine
6549	hist
7286	unknown
7288	"
7307	hist
9756	arg
9929	prol
10099	pa alan.
10259	unknown
10283	hist
11117	"
32044	unknown
32179	arg
40102	hist
41272	arg
47017	hist
50265	isoleuc
51775	c - m ? (i-v?)
52204	pab
52997	lys
60297	choline
69441	hist
81414	"
84248	unknown
~~xxxx~~	
84886	hist
85880	"
~~86k~~	
86842	"
89172	"
96730	"
97054	"

Absidia glauca (Giles)

1	
10	hist
50	"
1200	
167	p
1571	pan-ye.
1643	"-aden
1891	"-
2775	lys
2790	hist
2828	tryp
196	pan

STANFORD /NEUROSPORA (con't)

46109	tryp	A
46404	"	a
46405	"	a
46406	"	A
46415	"	A
46423	isoleuc,val	A
46807	" "	"
46808	"	a
47101	"	a
47203	trypto	A
47317	"	A
47711	i-v	a
47808	tryp?	a
48009	"	A
48306	"	A
48501	valine	A
48613	tryp	A
48614	"	A
48615	"	"
50005-5231	pyrim&thiaz.	a
51602	B2-temp	A, a
"-37401		A
56501	B1	a
65001	nic,tryp	a
65001-2198	?	A
-3416		A
65205	tryp	A
65612	"	"
66110	"	a
67601	val	A
70307	tryp	A
71103	isoleuc	A
71301	pab	a
75001	tryp	A,a
-39401		A
75102	"	a
80801	"	A
81001	"	a
85902	thiazole ?	A

YALE BIOCHEMICALS:

602	albino	a
1093	lys	A
1866	"	a
1870	"	a
1879	"	a
1937	YE	a
1943	YE	a
2170	al	A
2171	al	a
2198	tryp	a
2298	B6	?
2299	ye	a
2329	B6	a
2364	leucine	A
2492	ye	a

YALE BIOCHEMICALS:

2840	meth	A
2887	meth	a
3261	chol	a
3317	cyst/meth	A
3494	" & "	a
3522	meth	a
3786	hc	A
3791	meth or +	A?
4195	meth	a
4246	hc	A
4518	hc	
4617	hc	
4750	B1	A
4815	meth	a
4840	ye	A
4905	vit	a
4927	vit	a
5015	hc	
6073	meth	A
6279	"	a
6516	ye	A
6516	pab	a
6603	cyst,meth	A
7110	hc	
7112	xye	
7548	vit,color	A
7582	lys	a
8228	al?	
8552	ye	a
10626	yx	a
10654	yx	a
12239	meth	
12504		
12964	yna	
14927	lys	
16329	Pa	A
16331	trypt	a
16424	aden	a
30005	?	
30010	?	
30013	?	
30017	?	
30251	?	

Misc. Neurospora :

S6201	val?		A
Abbot 4	+	M	A
12	+		A
Chilton	+		a
Sy F8	+ isogen		A,a
E 5297			a
977 R L			a
N.sit. Sands PC			A
HSSF . 28 =PC			a
56.7 PC			a
N. tetra S9			?

4545-5531-15300
51602-4545-37401-15300
" -5531- " "
10575-37401 -15300
G27 A al-pan-inos-B2-tryp
G37a " " " " "

New Yale Mutants;

K		
14927	lys	a
16050	colonial	A
16059	lys	A
16424	aden	a
16329	ph.alan	A
16349	cyst, meth	a,A
16351	aden, hypox	A
16367	cyst, meth	A
16479	pab	A
16446	inos	A
16603	meth, cyst	A
16631	aden	A
16744	meth	A
16470	leuc	A
16641	meth	
16695	pan	A
16644		A
16747	meth	A
16730	aden, hypox	A
16796	pab	

Penicillium

3169	proline
4769	hist
6155	arg
6549	hist
7286	unknown
7288	"
7307	hist
9756	arg
9929	prol
10099	ph. alan.
10259	unknown
10283	hist
11117	"
32044	unknown
32179	arg
40102	hist
41272	arg
47017	hist
50265	isoleuc
51775	c-m? (k-v)?
52204	pab
52997	lys
69297	choline
69441	hist
81414	"
84248	unknown
84886	hist
85880	"
86842	"
89172	"
96730	"
97054	#

Absidia glauca (Giles)

1	+
196	pan
10	hist
50	"
1200	
167	
1571	pan-YE
1643	" aden
1891	"-?
2775	lys
2790	

2775	lys
2790	hist
2828	tryp

YEAST

Eremothecium Ashbyii # 2
59

Sacch. cerevisiae (Lindegren)

93- 1 C haploid
Y-Yo (93-1C) orig. biotin, pan, pab

" xsr 15	33
19	40
22	41
24	42
30	46
35	50
37	51
39	52
43	53
48	54
49	56
[illegible]	57
115	58
122	64
2	66
5	75
8	78
26	79
28	83
29	90
31	103
125	108
133	99 W
	99 R

Schizosaccharomyces Pombe (Wickerham)
" octosporus

Phycomyces +
4B

Summary of Y- stocks

51	274-4	Y39	UV	II	Histidine, serine
52	256-1	224-1	UV	II	Niacin (EMZ)
53	335-2	Y1o	UV	EMB-Lac	Lactose-negative; Threonin, leudine, B_1
* 54	TREFFERS 58-161		selection		penicillin-resistant (?)
* 55	Y40 X Y53		recombination		lactose- prototroph
* 57	Y53		seelection with T3 (sic)		resistant to T1,T3,T5 !
* 58-62	360		discarded		
* 63	discarded				
* 64	360	Y53	selection with T1		resistant to T1, T5
*65	360	discarded; preabably a contaminant			
* 66	360	Y53	selection with T3		resistant to T1,T3,T5 probably fallacious
* 67	360	Y53	selection with T7		mucoid; sensitive
* 68	366	58-161	UV	inspection	mucoid (no recomb: 414)
* 69	395	Y40	UV	inspection	mucoid
* 70	396	Y53	UV	inspection on EMB	less revertible at Lac- locus
* 71	396	Y53	UV	inspection	less revertible at Lac- locus
*72	405-1	Y53 X Y40		recomsination	B_1-Lac-V_1^r
* 73	405-3	do.		do	B_1-Lac-V_1^s
* 74	405-4	do.		do.	B_1-Lac+V_1^s
* 75	405-2	discard			
* 76	-	Y53	spontaneous; slection		Lac-reverted
* 77	430	Y64	sp.	selection	resistant to malachite green 100u/ml
* 78	430	58-161	sp	selection	resistant to streptomycin, 5 u/ml
79	436	Y77	sp	sel	resist. brilliant green 50u/ml
* 80	434	Y40	HN2	sel on EMB	glycerol-negative
* 81	discard 436:glycerol enrichment				
82	443	Y53	sp	sel	resist streptothricin 5u
* 83	443	Y78	sp	sel	resist streptothricin 10 u
84	443	like 83			
85	Y40 X Y53		recombination		B-Lac-V^r
* 86	456	Y53	selection with T1		resist T1;T5 unstable mucoid
* 87	463	Y40	HN2	sel EMB	lactose-negative
* 88	466	Y53	sp	selection	resist to Chloroacetate 2 mg/ml
* 89	Y88 x Y40		recombination		prototroph; Cla^r
90	481	Y40	sel		resist iodoacetate Ia^r
91	~~x Y40~~ do. Y40		sel		Cla^r
92	481	Y40	sel		resistant to azide(As^r)
93	481	Y53	sel		Ia^r
94	511	Y53	sel	T6	V_6^r
95					
96	511	Y53	sel	T3	V_3^s (also res. T4,T7,T6)
97	-	Y53	sp.	inspect	less revertibel at Lac-
98		Y53	sel		V_3^r (V_6^s)
99		Y53	sel	(T1 + T6)	resist to T1; T5-sens.
100	521	Y53	sel	(T1:sm col)	do.
101	521	~~Y53~~ Y40	sel		V_6^r (already res. T1,T5) [S.c.] ✗
102	521	Y53	sel	(T1+T4)	resist T1,T4... ✗

Aneutrophic Salmonellas

	S		type	requirements
L	1	✓	para A	methionine tryptophane.
	4	✓	cholera suis	~~tryp.~~ methionine lost!
	12	✓	pullorum	leucine, cystine
	13	✓		leucine cystine
	14	✓		leucine, methionine, cystine (arginine)
	15	✓		leucine, SH
	16	✓		leucine, cystine
	17	✓		leucine, cystine
L	36	✓	gallinarum	thiamine
L	37	✓	dublin	thiamine
L	42	✓ para A.	~~typhi-murium~~	tryptophane ✓ (uses indole; not anthran.)
	45	✓	enteritidis	ornithine (uses arg; citr also)
	50	✓	para A	~~tryptophane,~~. BIOTIN;
L	52	–	para B	
L	55	✓	cholerae suis	~~Proline~~; (~~stim cystine~~) TRYPTOPHANE; cystine (adapts)
L	56	✓	cholerae suis	tyrosine, OR BIOTIN!
	57	–	typhi suis	
	58	–	abortus ovis	
	59		sendai	slow prototroph.
	60		sendai	do.
	61 - 69.		typhi-murium	~~SH~~ METHIONINE.
	51	✓	para B	PROLINE
L	70		typhi murium	SH. u.v. mutant of S 20.

also S20 = typhi-murium

Salmonella strains

	S	type	serotype		nutrition		
	1	para A	I, II, XII	a	−		
	2	para B	I, IV, IX	b, 1, 2	+ *		methionine, tryptophane
	3	cholerasuis	VI VII	c.. 1,5	+		
	4	"			−		
	5	enteritidis	I, IX, XII	g, m	++		methionine.
	6	"			++		
P+J	7	rissenkeny	VI VII	m, t	++		
	8	montevideo	VI VII	g, m, s	++		
	9	newport	VI, VIII	e, h..	++		
	10	"		1,2,3	++		
	11	typhimur.	I, IV, V	i, .. 1,2,3	++		
B16	12	pullorum			−	E	leucine, ~~isoleucine~~ cystine, ~~histidine~~ (meth.) LIX n.g.
143	13	"			−	EN	leucine, (arg., meth.) cystine
138	14	"	IX, XII		−	EN	leucine, arginine, methionine, (~~histidine~~) cyst.
W17	15	"			−	E	leucine, ~~isoleucine~~, ~~meth.~~, ~~hist.~~ ✓ OK on leuc.
WhR	16	"			−	EN	leucine; cystine
Rettger.	17	"			−	EN	leucine (~~arg.~~, ~~meth.~~) cystine (slow on L C)
	18	abortus bovis	IV, XIII	b.. enx	++		
	19	" 2.	"	"	++		
P.R.Ed.	20	typhimurium	IV, V	i... 1,2,3	++		monophasic - phase 1
	21	" "			++		monophasic - phase 2.
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* + = prototroph.

SALMONELLA - "MUTANT" TYPES.

S	Ref.	"species"				
1	P+S	paratyphi A				methionine, tryptophane
4	P+S	choleraesuis				methionine
12	Rettger	pullorum				LEUCINE, ~~ISOLEUCINE~~, ~~HISTIDINE~~ CYSTINE
13	"	"				LEUCINE, CYSTINE
14	"	"				LEUCINE, [ARGININE,] METHIONINE, CYSTINE
15	"	"				LEUCINE, ±S,
16	"	"				LEUCINE, CYSTINE
17	"	"				LEUCINE, CYSTINE
	Whitby:					
18	227	oranienburg		++		
19	3575	oranienburg	~~++~~	++		
~~20~~	415	kentucky	++			S84 open.
~~21~~	421	typhimurium		++		
~~22~~	3490	typhimurium	++			
~~23~~	3542	typhimurium	++			
~~24~~	422	abortus equi	++			
~~25~~	426	newport	++			
~~26~~	3491	newport		++		
~~27~~	429	london	++			
~~28~~	547	urbana	++			
~~29~~	1681	budapest	++ R.			
~~30~~	1916	inverness	++			
~~31~~	1918	adelaide	++			
~~32~~	3486	montevideo	±S	++		
~~33~~	3539	panama	++			
~~34~~	3573	paratyphi	±S	++		
35	3576	paratyphi		++		
36	3045	gallinarum	→	−	+late	Thiamine
37	1684	dublin	→	−		Thiamine. motile
38	3481	~~newport~~	±S	++		
	Yale:					
39		typhimur	++			
40	28		++			
41	27		++			
42	32	para A.	−			TRYPTOPHANE type corrected by Edwards
43	25	enteritidis	++			
44	23	"	++		+late	
45	24	"	−			~~ARGININE~~. ORNITHINE
46		"	++			
47	34	para A	++			
48	33	"	++ R			
49	18	"	++ R.			
50	17	"	−			
51	19	para B	~~++~~ ±			V
52	20	"	−			
53	21	"	++			
54	22	"	++			
55	31	choleraesuis		−		
56	30			−		Tyrosine;

[stim. but not ess.] ± cyst or meth (supl. SH)

Virus Strains

T-1. From Demerec.

a. See 230 6/10/46. Found contaminated 7/14.
b. Recover again from Demerec suspension. Incubate ≈ 5 74-183 4h., centrifuge and filter. Titer on 49 = 16×10^6 Small + large plaques.
c. Recover from lyophilization - excellent viability.

Substrains

679-680-A TL from Ryan, for better mutants (triples) 4/15/40.
Y10A Resolate Y10 and test. (separate from threonine inversion).

Y-Y0 = S. cerevisiae - haploid clone from Lindegren.
Requires pab, pnt, biotin. Lese B(α).