

***Neurospora crassa* genetic maps and mapped loci (January, 2000)**

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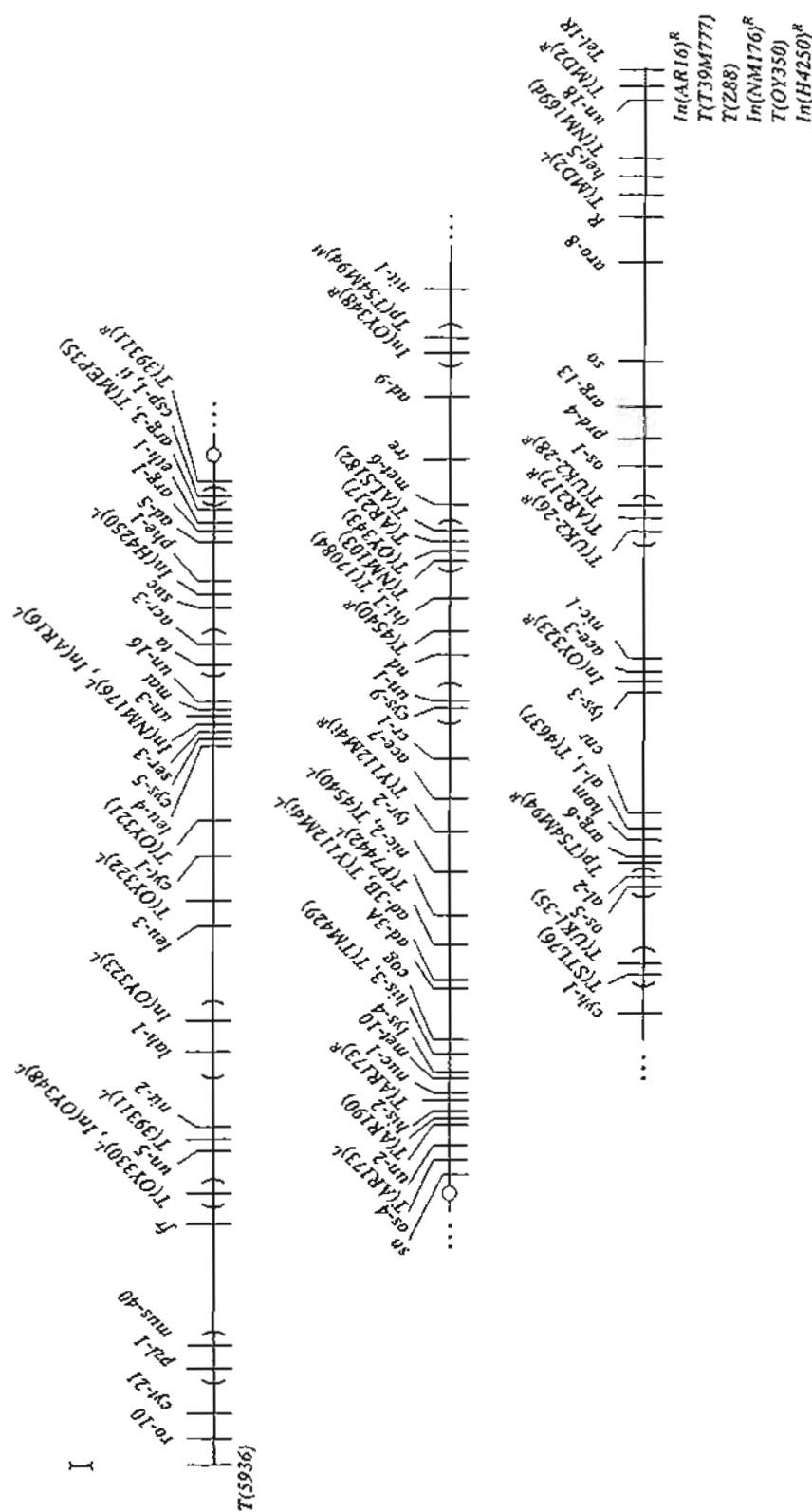
Maps. Loci are displayed only if their order is established with reasonable certainty, either from meiotic crossing over, multiple-point crosses, from duplication coverage, or by physical mapping. Loci are not displayed but are listed below the maps if their order is uncertain relative to the loci that are shown, except that closely linked loci may sometimes be shown in parentheses on the map even if their relative order is unknown. Evidence for linkage is given in the lists and is referenced in the new compendium (Perkins, Radford, and Sachs 2000 *Chromosomal Loci of Neurospora crassa*. Academic Press). Crossover values and interval lengths are approximations. Numbers on which they are based are often small and the various stocks used for mapping differ in genes that affect meiotic recombination. Linkage group I is estimated to be at least 200 map units long and the total for all seven groups probably exceeds 1000.

Rearrangement breakpoints are shown only if their map position has been determined precisely. Insertional and quasiterminal rearrangements are usually the best mapped. Many of these duplication-generating rearrangements have been instrumental in determining the order of flanking gene loci by means of duplication-coverage tests. When a rearrangement involves more than one break in the same chromosome, the breakpoints are distinguished by superscripts *L* (left), *R* (right), or *M* (middle). Symbols for rearrangements with quasiterminal breakpoints are shown below the relevant linkage-group tip. Rearrangement symbols are abbreviated. For example, *T(IL→IR)39311* is shortened to *T(39311)*. Full symbols can be found in the FGSC Stock List or in Perkins, D. D., *Advan. Genet.* 36:239-398 (1997), where descriptions and linkage relations of 355 chromosome rearrangements are given.

Lists: Accompanying the map of each linkage group is a list of all the loci known with reasonable certainty to be located in that group. These are ordered alphabetically by locus symbol. Neither the maps nor the lists include anonymous RFLP and RAPD markers. Recombination percentages and numerical fractions are from random ascospore progeny. When data are from asci, the numbers of tetratype (T) and nonparental ditype (NPD) asci are given, together with the total number. In statements with the format "Locus *c* is between *a*, *b* and *d*, *e*", the word "and" separates markers to the left of *c* from markers to the right. If synonyms exist, only the preferred symbol is given. Names, references, synonyms, and a documented description of each locus will be found in the new compendium. Over 1000 loci have now been assigned to linkage group.

For background and references see Perkins and Barry 1977 *Advan. Genet.* 19:133-285, Perkins 1997 *Advan. Genet.* 36:239-398 (cytogenetics, chromosome rearrangements); Perkins 1986 *J. Genet.* 65:121-144 (mapping by duplication coverage); Perkins 1999 *Fungal Genet. Newslett.* 46:34-41 (genetic nomenclature),

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LOCI IN LINKAGE GROUP I

<i>aap-2</i>	Linked to <i>al-2</i> (0/18 asci).	<i>arg-1</i>	Between <i>ad-5</i> (1%) and <i>eth-1</i> (<1%).
<i>ace-3</i>	Between <i>lys-3</i> (±1%) and <i>ln(OY323)^R</i> and <i>nic-1</i> (<1%).	<i>arg-3</i>	Between <i>eth-1</i> (1%) and <i>csp-1</i> (1%), <i>T(39311)^R</i> .
<i>ace-7</i>	Between <i>nic-2</i> (4%; 7%) and <i>cr-1</i> (1%; 3%).	<i>arg-6</i>	Between <i>al-2</i> (1 or 2%), <i>Tp(T54M94)^R</i> and <i>hom</i> (1%), <i>al-1</i> (1%, 4%).
<i>acr-1</i>	Linked to <i>mat</i> (8%; 12%).	<i>arg-13</i>	Between <i>os-1</i> (1%) and <i>so</i> (2%, 12%).
<i>acr-3</i>	Between <i>un-16</i> (1%; 5%) and <i>suc</i> (1%; 5%).	<i>arg-7</i>	Between <i>arg-1</i> (4%) and <i>his-3</i> (1 or 2%).
<i>acu-4</i>	Linked to <i>mat</i> , <i>acr-3</i> (5%).	<i>atr-1</i>	Between <i>suc</i> (0/39), <i>ln(H4250)^L</i> and <i>T(39311)^R</i> .
<i>ad-3A</i>	Right of <i>arg-1</i> (5/29).	<i>aza-1</i>	Left of <i>mat</i> (23%).
<i>ad-3B</i>	Between <i>his-3</i> (1%; 3%) and <i>ad-3B</i> (<1%).	<i>aza-2</i>	Linked to <i>mat</i> (2%), <i>aza-1</i> (39%).
<i>ad-5</i>	Between <i>ad-3A</i> (<1%) and <i>T(P7442)^L</i> , <i>mic-2</i> (3%).	<i>B^m</i>	Left of <i>nit-2</i> (30%).
<i>ad-9</i>	Between <i>phe-1</i> and <i>arg-1</i> (1%).	<i>Ban</i>	Linked to <i>un-1</i> (9%), probably to the right.
<i>al-1</i>	Between <i>hom</i> (7%) and <i>Tp(T54M94)^M</i> , <i>ln(OY348)^R</i> , <i>nit-1</i> .	<i>bs-1</i>	Linked to <i>cys-9</i> (10%), <i>un-1</i> (10%).
<i>al-2</i>	Between <i>cyh-1</i> (8%; 13%), <i>T(STL76)</i> and <i>Tp(T54M94)^R</i> , <i>arg-6</i> (1%).	<i>ca-1</i>	Linked to <i>ca-1</i> (5%), <i>cys-9</i> , <i>un-1</i> (10%).
<i>amyc</i>	Between <i>ad-5</i> and <i>Cen-I</i> .	<i>ca-3</i>	Between <i>mat</i> (0/18; 3T/18 asci) and <i>Cen-1</i> (2T/18 asci).

LOCI IN LINKAGE GROUP I (continued)

<i>cjs(OY305)</i>	Between <i>mat</i> and <i>al-2</i> .	<i>fs-3</i>	Left of <i>mat</i> (16%).
<i>cjs(OY306)</i>	Linked to <i>al-2</i> , probably to the right.	<i>fsp-2</i>	Right of <i>nit-2</i> (6%).
<i>cjs(OY307)</i>	Between <i>mat</i> and <i>al-1</i>	<i>fss-1</i>	Linked to <i>met-6</i> , <i>ad-9</i> , <i>al-2</i> <i>arg-6</i> (0/18).
<i>chs-4</i>	Linked to <i>leu-4</i> , <i>mat</i> , <i>arg-3</i> (0/18).	<i>fss-12</i>	Linked to <i>nit-2</i> (0 or 1/16), <i>vma-4</i> (0 T/18 asci).
<i>cnr</i>	Between <i>hom</i> (1%), <i>al-1</i> and <i>In(OY323)^R</i> , <i>lys-3</i> .	<i>fss-18</i>	Linked to <i>nit-1</i> (0/18), <i>arg-13</i> (2 T/18 asci).
<i>cog</i>	Between <i>his-3</i> (1%, 3%, 3kb) and <i>ad-3A</i> (2%, 7%).	<i>fss-30</i>	Linked to <i>mat</i> (0 T/18 asci).
<i>col-12</i>	Linked to <i>mat</i> (17%, 22%).	<i>fss-33</i>	Linked to <i>lys-4</i> (0 or 1 T/18 asci).
<i>con-8</i>	Linked to <i>phr</i> (0/18), <i>nit-1</i> (4/18).	<i>gap-1</i>	Between <i>mat</i> (6%) and <i>Cen-1</i> (4%).
<i>cpd-2</i>	Right of <i>arg-1</i> (6%).	<i>gla-2</i>	Linked to <i>mat</i> (3/68), <i>sor-4</i> (≤ 10 kb), <i>his-3</i> (3/65).
<i>cpd-3</i>	Right of <i>arg-1</i> (11%).	<i>glp-1</i>	Probably between <i>ad-9</i> (2%) and <i>nit-1</i> (11%).
<i>cr-1</i>	Between <i>ace-7</i> (1%, 3%) and <i>cys-9</i> (3%), <i>un-1</i> (5%).	<i>glp-5</i>	Left of <i>cr-1</i> (15%).
<i>cr-2</i>	Between <i>T(NM103)</i> and <i>al-2</i> (18%).	<i>grp-78</i>	Linked to <i>mat</i> (0 T/18 asci).
<i>cr-3</i>	Between <i>T(4540)^R</i> and <i>cr-2</i> .	<i>gsp</i>	Left of <i>mat</i> (10%).
<i>crp-7</i>	Linked near <i>con-8</i> .	<i>gua-1</i>	Probably between <i>his-2</i> (3%) and <i>cr-1</i> (3%).
<i>Csh</i>	Between <i>thi-1</i> (12%), 20%) and <i>ad-9</i> (5%).	<i>hda-2</i>	Linked to <i>arg-13</i> (2 T/18 asci).
<i>csp-1</i>	Between <i>arg-3</i> (1%) and <i>T(39311)^R</i> .	<i>het-5</i>	Between <i>R</i> , <i>T(MD2)^L</i> and <i>T(NM169d)</i> , <i>un-18</i> , <i>T(MD2)^R</i> .
<i>csp-1</i>	Between <i>his-2</i> (20%) and <i>cyh-1</i> (1%, 3%).	<i>his-2</i>	Between <i>un-2</i> (<1%), <i>T(AR190)</i> and <i>T(AR173)^R</i> , <i>nuc-1</i> (<1%).
<i>cy</i>	Linked to <i>ad-5</i> (1/54), probably to the left.	<i>his-3</i>	Between <i>met-10</i> , <i>lys-4</i> (1%) and <i>cog</i> (1%, 3%), <i>ad-3A</i> (1%, 3%).
<i>cyh-1</i>	Linked to <i>mat</i> (6%).	<i>hom</i>	Between <i>Tp(T54M94)^R</i> , <i>arg-6</i> (1%) and <i>al-1</i> (<1%).
<i>cyh-1</i>	Between <i>nit-1</i> (6%) and <i>T(STL76)</i> , <i>al-2</i> (8%, 13%).	<i>hsp</i>	Between <i>al-2</i> and <i>nit-1</i> .
<i>cys-5</i>	Between <i>leu-4</i> and <i>ser-3</i> (<1%).	<i>hsp-30</i>	Linked to <i>met-3</i> , <i>Cen-1</i> , <i>un-2</i> , <i>his-2</i> (0 T/18 asci).
<i>cys-9</i>	Between <i>cr-1</i> (3%) and <i>nd</i> , <i>T(4540)^R</i> , <i>thi-1</i> (13%).	<i>hit</i>	Right of <i>ad-3</i> (1%, 10%).
<i>cys-11</i>	Linked to <i>cys-5</i> (<1%), probably to the right.	<i>In(AR16)^L</i>	Between <i>ser-3</i> and <i>un-3</i> .
<i>cys-12</i>	Linked to <i>al-1</i> or <i>al-2</i> (0/76). Right of <i>ad-9</i> (12%).	<i>In(NM176)^L</i>	At <i>Tip-IR</i> .
<i>cys-13</i>	Right of <i>nit-2</i> , <i>cr-2</i> , <i>T(112M41)^R</i> .	<i>In(NM176)^R</i>	Between <i>ser-3</i> and <i>un-3</i> .
<i>cyt-1</i>	Between <i>leu-3</i> (5%, 8%) and <i>T(OY321)</i> , <i>leu-4</i> .	<i>In(OY323)^L</i>	Between <i>nit-2</i> and <i>leu-3</i> .
<i>cyt-18</i>	Between <i>T(AR173)</i> breakpoints.	<i>In(OY323)^R</i>	Between <i>lys-3</i> and <i>ace-3</i> , <i>nic-1</i> .
<i>cyt-20</i>	Linked to <i>al-2</i> (10%), <i>nit-1</i> (1%, 5%).	<i>In(OY348)^L</i>	Between <i>fr</i> and <i>un-5</i> .
<i>cyt-21</i>	Linked to <i>mat</i> (<1%).	<i>In(OY348)^R</i>	Between <i>ad-9</i> and <i>nit-1</i> .
<i>dgr-2</i>	Between <i>ro-10</i> (1%) and <i>nit-2</i> (5/18).	<i>In(H4250)^L</i>	Between <i>suc</i> and <i>phe-1</i> .
<i>dgr-4</i>	Right of <i>arg-1</i> (2%). Linked to <i>esp-1</i> (1%).	<i>In(H4250)^R</i>	At <i>Tip-IR</i> .
<i>dir</i>	Linked to <i>al-2</i> (1%), probably to the left.	<i>ipa</i>	Between <i>mat</i> (20%) and <i>arg-1</i> (1%).
<i>dot</i>	Right of <i>pa</i> .	<i>krev-1</i>	Linked to <i>nit-2</i> (0/18).
<i>eat-1</i>	Linked to <i>ad-9</i> (0/44). Right of <i>thi-1</i> (2%).	<i>lah-1</i>	Between <i>nit-2</i> (2%) and <i>leu-3</i> (5%).
<i>eat-2</i>	Right of <i>mat</i> . Between <i>mat</i> and <i>eat-2</i> .	<i>leu-3</i>	Between <i>lah-1</i> , <i>In(OY323)^L</i> and <i>T(OY322)^L</i> , <i>cyt-1</i> (5%, 8%), <i>T(OY321)</i> .
<i>eat-3</i>	Right of <i>mat</i> . Between <i>eat-1</i> and <i>eat-3</i> .	<i>leu-4</i>	Between <i>cyt-1</i> , <i>T(OY321)</i> and <i>cys-5</i> (<1%).
<i>eat-4</i>	Right of <i>mat</i> . Between <i>eat-2</i> and <i>eat-4</i> .	<i>lis-1</i>	Between <i>ad-3</i> (6%) and <i>al-1</i> (16%).
<i>eat-5</i>	Right of <i>mat</i> and <i>eat-3</i> .	<i>lpl</i>	Right of <i>his-3</i> , <i>cog</i> (adjoining).
<i>eat-6</i>	Left of <i>mat</i> . Between <i>eat-6</i> and <i>mat</i> .	<i>lys^R</i>	Between <i>his-3</i> and <i>nit-2</i> .
<i>En(pdx)</i>	Left of <i>mat</i> . Between <i>un-3</i> and <i>eat-5</i> .	<i>lys-3</i>	Between <i>al-1</i> (9%) and <i>In(OY323)^R</i> , <i>ace-3</i> , <i>nic-1</i> .
<i>erg-4</i>	Linked to <i>mat</i> (5%), probably to the left.	<i>lys-4</i>	Between <i>nuc-1</i> (1%), <i>met-10</i> and <i>his-3</i> (1%).
<i>esr-2</i>	Linked to <i>al-1</i> (10%).	<i>mad-1</i>	By cosmid assignment.
<i>elh-1</i>	Linked to <i>mat</i> (10%).	<i>mat</i>	Between <i>un-3</i> (≤ 0.1 %) and <i>un-16</i> (<1%). Between <i>eat-5</i> and <i>eat-1</i> .
<i>exo-1</i>	Linked to <i>arg-1</i> (<1%) and <i>arg-3</i> (<1%).	<i>mb-2</i>	Between <i>cyh-1</i> (5%) and <i>al-1</i> (7%).
<i>ff-3</i>	Right of <i>os-1</i> (3%).	<i>mb-3</i>	Linked to <i>cyh-1</i> (18%), <i>al-1</i> (2%), <i>mb-2</i> (6%).
<i>fls</i>	Between <i>nit-1</i> (5%, 19%) and <i>al-1</i> (6%, 19%).	<i>mea</i>	Right of <i>acr-3</i> (9%).
<i>fmf-1</i>	Between <i>mat</i> (2%, 15%) and <i>cr-1</i> (2%).	<i>mep(3)</i> , <i>mep(10)</i>	Between <i>arg-1</i> (3%) and <i>T(39311)^R</i> .
<i>fpr-5</i>	Left of <i>al-2</i> (25%).		Left of <i>mat</i> .
<i>fr</i>	Between <i>ro-10</i> (18%) and <i>T(OY330)^L</i> , <i>un-5</i> (6%).		

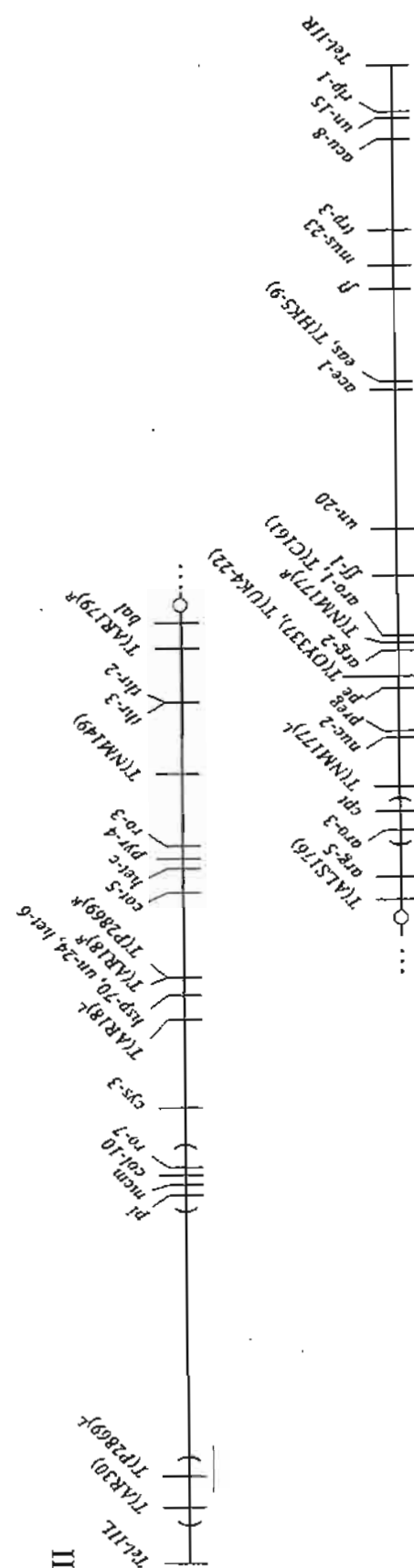
LO. LINKAGE GROUP 1 (continued)

<i>met-6</i>	Between <i>T(NM103)</i> , <i>T(ALS182)</i> , <i>T(OY343)</i> and <i>ire</i> (7%), <i>ad-9</i> (2%, 16%).	<i>sdv-4, sdv-5</i>	Between <i>al-2</i> (17/18 asci) and <i>arg-13</i> (5T, 2NP/18 asci).
<i>met-10</i>	Between <i>his-2</i> , <i>T(AR173)</i> , <i>nuc-1</i> and <i>lys-4</i> , <i>his-3</i> .	<i>ser-3</i>	Between <i>cys-5</i> (<1%) and <i>ln(NM176)</i> , <i>un-3</i> (<1%).
<i>mo-1</i>	Linked to <i>mat</i> (9%).	<i>sf</i>	Linked to <i>mat</i> (3%), <i>cy</i> (3%).
<i>mo-5</i>	Linked to <i>mat</i> (20%).	<i>slo-1</i>	Between <i>mat</i> (14%) and <i>thi-1</i> (2%, 5%).
<i>msk-1</i>	Linked to <i>cyt-21</i> (0/18).	<i>smco-1</i>	Linked to <i>mar</i> (10%), <i>rg-1</i> (0/72).
<i>msk-9</i>	By cosmid assignment.	<i>smco-3</i>	Linked to <i>mat</i> (2%).
<i>mus-13</i>	Right of <i>al-2</i> (18%).	<i>smco-5</i>	Between <i>Cen-1</i> (<1%) and <i>os-4</i> (<3%), <i>T(AR173)</i> .
<i>mus-15</i>	Between <i>arg-1</i> (4%) and <i>arg-3</i> (<2%).	<i>so</i>	Between <i>arg-13</i> (2%, 12%) and <i>aro-8</i> (7%, 11%).
<i>mus-19</i>	Between <i>aro-8</i> (8%) and <i>un-18</i> (4%).	<i>sod-1</i>	Between <i>fr</i> (5T/16 asci) and <i>fcr-12</i> , <i>vma-4</i> (2 or 4T/18 asci).
<i>mus-22</i>	Left of <i>cyt-1</i> (2%).	<i>sor-4</i>	Linked to <i>phe-1</i> (<1%) and <i>ln(NM176)</i> , <i>mat</i> (17%).
<i>mus-31</i>	Between <i>Cen-1</i> and <i>ad-3B</i> (7%).	<i>spco-11</i>	Right of <i>mat</i> (13%, 35%).
<i>mus-32</i>	Between <i>mus-31</i> (3%) and <i>ad-3B</i> (4%).	<i>spco-12</i>	Linked to <i>nit-2</i> (<0.2%).
<i>mus-38</i>	Left of <i>un-5</i> (7%), <i>len-3</i> (10%). Linked to <i>nir-2</i> (0/18).	<i>ss</i>	Linked to <i>mat</i> (22%), <i>Cen-1</i> (7%), <i>al-2</i> (26%).
<i>mus-40</i>	Linked to <i>pzl-1</i> (0/18). Between <i>cyt-21</i> (1/18) and <i>fr</i> , <i>nir-2</i> (3/16).	<i>ssu-2</i>	Linked to <i>mat</i> (22%), <i>Cen-1</i> (10%), <i>al-2</i> (33%).
<i>nd</i>	Between <i>cys-9</i> (<2%, 3%) and <i>T(4540)</i> , <i>thi-1</i> (<2%, 4%).	<i>ssu-3</i>	Linked to <i>al-2</i> (2%, 8%).
<i>nir-1</i>	Between <i>lys-3</i> <i>ace-3</i> (<1%) and <i>T(UK2-26)</i> , <i>os-1</i> (10%, 30%).	<i>ssu-8</i>	Between <i>ad-3B</i> (5%) and <i>thi-1</i> (14%).
<i>nir-2</i>	Between <i>ad-3B</i> (4%) and <i>tyr-2</i> , <i>T(Y112M4)</i> , <i>ace-7</i> (4%, 7%).	<i>st</i>	Linked to <i>mat</i> (13%).
<i>nir-8</i>	Between <i>ad-9</i> (3%, 15%), <i>Trp(54M94)</i> and <i>cyt-1</i> (6%).	<i>su(bal)</i>	Linked to <i>mat</i> (0/837).
<i>nuc-1</i>	Between <i>un-5</i> (2%), <i>T(39311)</i> and <i>lah-1</i> , <i>ln(OY323)</i> , <i>len-3</i> (12%, 18%).	<i>su(col-2)</i>	Linked to <i>al-2</i> (1%).
<i>nuk-6</i>	Linked to <i>cr-1</i> (0/61). Between <i>nir-2</i> (10%) and <i>thi-1</i> (3%).	<i>su(met-7)-1</i>	Between <i>un-7</i> (<1%) and <i>al-2</i> (1%, 4%).
<i>nuk-8</i>	Between <i>his-2</i> (1%), <i>T(AR173)</i> and <i>met-10</i> , <i>lys-4</i> (1%).	<i>su(mir)-1</i>	Right of <i>his-2</i> (2%).
<i>nuo12.3</i>	Between <i>Cen-1</i> (5%) and <i>nir-2</i> (4%).	<i>su(suc)-2</i>	Linked to <i>suc</i> (3%).
<i>nuo20.8</i>	Right of <i>nir-1</i> .	<i>su(trp-3)¹⁰²-2a</i>	Linked to <i>al-2</i> (15%).
<i>os-1</i>	Between <i>lys-4</i> (17/18 asci) and <i>cys-9</i> (7T/18 asci).	<i>suc</i>	Between <i>acr-3</i> (2%) and <i>ln(H4250)</i> , <i>phe-1</i> (1%).
<i>os-4</i>	Between <i>mat</i> (0 or 1T/17 asci) and <i>Cen-1</i> (3T/17 asci).	<i>T</i>	Between <i>ad-3A</i> (18%), <i>nir-2</i> (12%) and <i>al-2</i> , <i>al-1</i> (12%).
<i>os-5</i>	Between <i>nir-1</i> (10%), 29%, <i>T(UK2-26)</i> and <i>prd-4</i> (2%), <i>arg-13</i> (1%; 4%).	<i>T(UK1-35)</i>	Between <i>cyt-1</i> and <i>al-2</i> .
<i>os-6</i>	Between <i>sn</i> (3%) and <i>T(AR173)</i> .	<i>T(MD2)¹</i>	Between <i>R</i> and <i>het-5</i> .
<i>os-7</i>	Linked to <i>os-1</i> (4%), <i>os-7</i> (6%).	<i>T(MD2)²</i>	Between <i>un-18</i> and <i>Tip-IR</i> .
<i>pa</i>	Linked to <i>os-1</i> (11%), <i>os-6</i> (6%).	<i>T(UK2-26)¹</i>	Between <i>met-6</i> and <i>ad-9</i> .
<i>pat</i>	Between <i>cr-1</i> (10%) and <i>dir</i> (37%).	<i>T(UK2-26)²</i>	Between <i>nir-1</i> and <i>os-1</i> .
<i>pex-2</i>	Linked to <i>mat</i> , probably to the right.	<i>T(T39M777)</i>	At <i>Tip-IR</i> . Linked to <i>R</i> (0/85).
<i>phe-1</i>	Linked to <i>mat</i> . Between <i>cyt-21</i> and <i>met-3</i> .	<i>T(STL76)</i>	Between <i>cyt-1</i> and <i>os-5</i> .
<i>phr</i>	Linked to <i>con-8</i> (0/18). Right of <i>os-1</i> (15%).	<i>T(288)</i>	At <i>Tip-IR</i> . Linked to <i>un-18</i> (0/50).
<i>prd-3</i>	Near <i>Cen-1</i> .	<i>T(NM103)</i>	Between <i>thi-1</i> and <i>met-6</i> .
<i>prd-4</i>	Between <i>os-1</i> (2%) and <i>arg-13</i> (3%).	<i>T(Y112M4)¹</i> , <i>ad-3A</i>	Breakpoint at <i>ad-3A</i> .
<i>pzl-1</i>	Linked to <i>mus-40</i> (0/18). Between <i>cyt-21</i> (1/18) and <i>nir-2</i> (3/16).	<i>T(Y112M4)²</i>	Between <i>tyr-2</i> and <i>ace-7</i> .
<i>R</i>	Between <i>aro-8</i> (4%) and <i>T(MD2)</i> , <i>un-18</i> (11%).	<i>T(NM169d)</i>	Between <i>het-5</i> and <i>un-18</i> .
<i>rec-3</i>	Between <i>acr-3</i> (1 or 2%) and <i>arg-3</i> (2%, 6%).	<i>T(NM173)¹</i>	Between <i>sn</i> , <i>os-4</i> and <i>un-2</i> .
<i>rg-1</i>	Between <i>his-2</i> , <i>T(AR173)</i> and <i>lys-4</i> (1%; 7%).	<i>T(NM173)²</i>	Between <i>his-2</i> and <i>nuc-1</i> .
<i>rg-2</i>	Linked to <i>rg-1</i> (0/650). Left of <i>lys-4</i> (12%).	<i>T(ALS182)</i>	Between <i>thi-1</i> and <i>met-6</i> .
<i>rgb-1</i>	Linked to <i>len-4</i> , <i>mat</i> , <i>arg-3</i> (0/18).	<i>T(ALS190)</i>	Between <i>un-2</i> and <i>his-2</i> .
<i>ro-6</i>	Between <i>T(4540)</i> , <i>nir-2</i> (0/95) and <i>T(4540)</i> , <i>thi-1</i> .	<i>T(AR217)¹</i>	Between <i>thi-1</i> , <i>cr-3</i> and <i>met-6</i> .
<i>ro-10</i>	Between <i>Tip-IL</i> and <i>cyt-21</i> (1%), <i>fr</i> (18%).	<i>T(AR217)²</i>	Between <i>nir-1</i> and <i>os-1</i> .
<i>sar-1, sar-3</i>	Near <i>mat</i> .	<i>T(OY321)</i>	Between <i>cyt-1</i> and <i>len-4</i> .
<i>scp</i>	Linked to <i>Fsr-18</i> .	<i>T(OY322)¹</i>	Between <i>len-3</i> and <i>cyt-1</i> .
<i>sdh-1</i>	Linked to <i>mat</i> (0/13).	<i>T(OY322)²</i>	Between <i>un-16</i> and <i>suc</i> .
		<i>T(OY330)¹</i>	Between <i>fr</i> and <i>un-5</i> .

LOCI IN LINKAGE GROUP I (continued)

<i>T(OY330)^R</i>	Between <i>un-16</i> and <i>suc</i> .
<i>T(OY343)</i>	Between <i>thi-1</i> and <i>met-6</i> .
<i>T(OY350)</i>	At <i>Tip-IR</i> . Linked to <i>un-18</i> (2/44).
<i>T(4540)^L nic-2</i>	Breakpoint at <i>nic-2</i> .
<i>T(4540)^R</i>	Between <i>un-1</i> , <i>cys-9</i> and <i>thi-1</i> .
<i>T(5936)</i>	At <i>Tip-IL</i> .
<i>T(P7442)^L</i>	Between <i>ad-3B</i> and <i>nic-2</i> .
<i>T(P7442)^R</i>	Between <i>cys-9</i> and <i>thi-1</i> .
<i>T(39311)^L</i>	Between <i>un-5</i> and <i>nlt-2</i> .
<i>T(39311)^R</i>	Between <i>arg-3</i> , <i>csp-1</i> and <i>Cen-I</i> .
<i>ta</i>	Between <i>un-16</i> (2%) and <i>acr-3</i> (<3%).
<i>tef-1</i>	Linked to <i>leu-4</i> , <i>mat</i> , <i>arg-3</i> (0/18).
<i>TeI-IR</i>	Linked to <i>arg-13</i> (6T, 2NPD/18 asci).
<i>tet</i>	Linked to <i>acr-3</i> (2%), <i>ad-3B</i> (1%).
<i>thi-1</i>	Between <i>cys-9</i> (13%), <i>T(4540)^R</i> and <i>T(NM103)</i> , <i>met-6</i> (7%; 14%).
<i>tl</i>	Between <i>arg-3</i> and <i>T(39311)^R</i> .
<i>Tip-IL</i>	Marked by <i>T(5936)</i> . Left of <i>ro-10</i> , <i>fr</i> .
<i>Tip-IR</i>	Marked by <i>In(H4250)</i> and other rearrangements. Right of <i>R</i> , <i>un-18</i> .
<i>Tp(T54M94)^L</i>	Between <i>arg-3</i> (2%) and <i>Cen-I</i> .
<i>Tp(T54M94)^M</i>	Between <i>ad-9</i> and <i>nlt-1</i> .
<i>Tp(T54M94)^R</i>	Between <i>al-2</i> and <i>arg-6</i> .
<i>ire-1</i>	Between <i>met-6</i> (7%) and <i>ad-9</i> (10%).
<i>ty-2</i>	Right of <i>al-2</i> .
<i>tyr-2</i>	Between <i>T(4540)^L nic-2</i> and <i>T(Y112M41)^R</i> , <i>ace-7</i> , <i>cr-1</i> (2%).
<i>lys</i>	Right of <i>mat</i> (6%).
<i>uc-2</i>	Linked to <i>mat</i> (0/12 asci), <i>upr-1</i> . Between <i>mat</i> (2%) and <i>arg-1</i> (7%).
<i>un-1</i>	Between <i>cr-1</i> (5%; 9%) and <i>nd</i> , <i>T(4540)^R</i> . Linked to <i>cys-9</i> (0/72).
<i>un-2</i>	Between <i>sn</i> , <i>os-4</i> , <i>T(AR173)^L</i> and <i>nd</i> , <i>T(AR190)</i> , <i>his-2</i> (1%).
<i>un-3</i>	Between <i>ser-3</i> (1%), <i>In(NM176)^L</i> and <i>mat</i> (<0.1%).
<i>un-5</i>	Between <i>fr</i> (6%), <i>T(OY330)^L</i> and <i>T(39311)^L</i> , <i>nlt-2</i> (2%).
<i>un-7</i>	Between <i>cyh-1</i> , <i>T(STL76)</i> and <i>al-1</i> (3%).
<i>un-16</i>	Between <i>mat</i> (<1%) and <i>ta</i> (1%), <i>acr-3</i> (<3%).
<i>un-18</i>	Between <i>R</i> (11%), <i>T(MD2)^L</i> , <i>T(NM169d)</i> and <i>T(MD2)^R</i> , <i>Tip-IR</i> .
<i>upr-1</i>	Between <i>mat</i> (2%) and <i>arg-1</i> (7%).
<i>ure-4</i>	Linked to <i>his-3</i> (1%), probably to the right. Left of <i>ad3B</i> (3%).
<i>urs-6</i>	Linked to <i>met-6</i> (<1%).
<i>vma-4</i>	Linked to <i>Fgr-12</i> (0T/18 asci). Left of <i>mat</i> (4T/18 asci).
<i>vma-11</i>	Between <i>al-2</i> (1T/18 asci) and <i>arg-13</i> (5T, 2 NPD/18 asci).
<i>wc-2</i>	Between <i>thi-1</i> (8%), <i>T(ALS182)</i> and <i>ad-9</i> (7%; 20%).
<i>ylo-2</i>	Between <i>suc</i> , <i>In(H4250)^L</i> and <i>arg-1</i> (1%).
<i>zip-1</i>	Linked to <i>cyl-21</i> (0T/18 asci).
<i>znr-3</i>	Linked to <i>mat</i> .

II

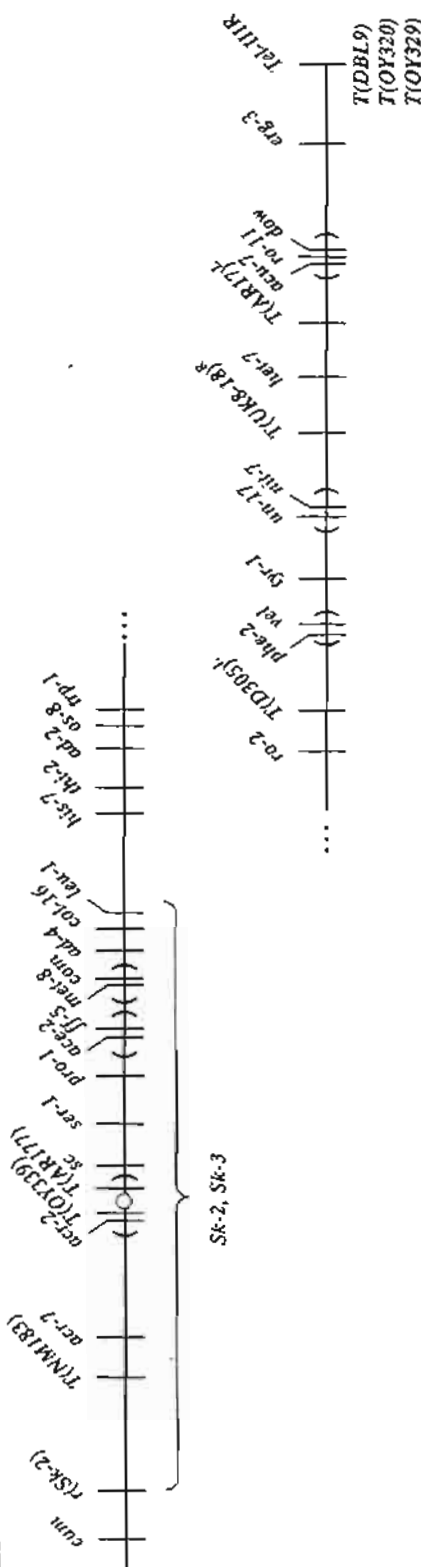


LOCUS LINKAGE GROUP II

<i>arg-1</i>	Linked to <i>acu-5</i> (26%), <i>arg-5</i> (33%)	<i>cya-4</i>	Between <i>arg-5</i> (2/39; 1T/18 asci) and <i>preg</i> (1T + 1 double exchange/18 asci).
<i>ace-1</i>	Between <i>un-20</i> (15%) and <i>eas</i> (1%), <i>fl</i> (11%)	<i>cys-3</i>	Between <i>thr-3</i> (38%) and <i>trp-3</i> (18%).
<i>ace-9</i>	Between <i>nuc-2</i> (2%) and <i>arg-12</i> (3%).	<i>cys-1</i>	Between <i>ro-7</i> , <i>pi</i> (4%) and <i>T(AR)18</i> ¹ .
<i>acr-5</i>	Between <i>arg-5</i> (6%) and <i>pe</i> (9%).	<i>cys-3</i>	Linked to <i>thr-3</i> (3%); right of <i>T(NM)149</i> .
<i>acu-5</i>	Linked to <i>arg-5</i> (6%), <i>aro-3</i> (7%).	<i>da</i>	Linked to <i>arg-12</i> , <i>aro-1</i> , <i>ure-3</i> .
<i>acu-8</i>	Between <i>trp-3</i> (8%) and <i>un-15</i> (3%).	<i>dim-4</i>	Between <i>ace-1</i> (1%) and <i>fl</i> (9%).
<i>acu-12</i>	Right of <i>Cen-II</i> . Linked to <i>trp-3</i> .	<i>eas</i>	Linked to <i>pe</i> .
<i>acu-13</i>	Linked to <i>trp-3</i> (23%).	<i>en(am)-2</i>	Between <i>aro-1</i> (5%) and <i>un-20</i> (4%).
<i>alc-1</i>	Linked to <i>pe</i> (10%).	<i>ff-1</i>	Between <i>ace-1</i> , <i>eas</i> (9%) and <i>nuc-23</i> (1%; 2%); <i>trp-3</i> (3%).
<i>aod-2</i>	Linked to <i>arg-5</i> (7%), <i>thr-3</i> (16%).	<i>fl</i>	Probably linked to <i>col-5</i> (14/48).
<i>arg-5</i>	Between <i>bal</i> (1%; 9%), <i>T(ALS)176</i> and <i>aro-3</i> , <i>pe</i> (6%, 18%).	<i>fs-2</i>	Right of <i>pe</i> (4%).
<i>arg-12</i>	Between <i>pe</i> (1%; 5%) and <i>T(NM)177</i> ¹ , <i>aro-1</i> (<1%).	<i>Fsp-1</i>	Between <i>vma-2</i> (1T/18 asci) and <i>eas</i> (1T/18 asci).
<i>aro-1</i>	Between <i>arg-12</i> (<1%), <i>T(NM)177</i> ¹ and <i>ff-1</i> (4%; 6%).	<i>Fsr-3</i>	Between <i>trp-3</i> (1/16) and <i>leu-6</i> (0/16; 9T, INPD/18 asci).
<i>aro-3</i>	Between <i>arg-5</i> (1%; 3%) and <i>T(NM)177</i> ¹ , <i>nuc-2</i> .	<i>Fsr-17</i>	Between <i>arg-12</i> (1/17) and <i>trp-3</i> (1/17; 4/41).
<i>arp-3</i>	Near <i>arg-12</i> .	<i>Fsr-21</i>	Between <i>arg-4</i> (10/41) and <i>Cen-II</i> (1T/18 asci), <i>arg-5</i> (2/41).
<i>atp-2</i>	Linked to <i>Cen-II</i> , <i>arg-5</i> (0T/18 asci).	<i>Fsr-32</i>	Between <i>arg-12</i> (1/18), <i>eas</i> (1T/18 asci) and <i>trp-3</i> (1/17). Linked to <i>Fsr-21</i> (0/59).
<i>bal</i>	Between <i>T(AR)179</i> and <i>T(ALS)176</i> , <i>arg-5</i> (1%; 7%). Probably left of <i>Cen-II</i> .	<i>Fsr-34</i>	Between <i>pyr-4</i> (2/41) and <i>Cen-II</i> (5T/18 asci), <i>arg-5</i> (0/41).
<i>blt-4</i>	Linked to <i>Fsr-34</i> (0T/18 asci). Between <i>eas</i> (1T/18 asci) and <i>leu-6</i> (9T, INPD/18 asci).	<i>Fsr-52</i>	Between <i>pyr-4</i> (2/41), <i>Fsr-52</i> (3/18, 8 41) and <i>arg-5</i> (10/41).
<i>cdt-1</i>	Left of <i>arg-12</i> (35%).	<i>Fsr-54</i>	Between <i>arg-5</i> (1T/18 asci; 2/39) and <i>preg</i> (4/39). Linked to <i>cya-4</i> (0T/18 asci).
<i>Cen-II</i>	Between <i>T(AR)179</i> ¹ and <i>T(ALS)176</i> , <i>arg-5</i> (0T/18 asci).	<i>Fsr-55</i>	Between <i>T(ALS)176</i> , <i>arg-5</i> ((8%) and <i>T(NM)177</i> ¹ , <i>pe</i> (7%).
<i>cit-1</i>	Linked to <i>preg</i> (0T/18 asci).	<i>glp-2</i>	Linked to <i>arg-12</i> (0/18), <i>vma-2</i> (1T/18 asci), <i>eas</i> (3T/18 asci).
<i>col-10</i>	Left of <i>cys-3</i> (14%). At or near <i>pi</i> .	<i>gpd-1</i>	Left of <i>con-6</i> (1 or 2/18), <i>arg-12</i> (3 or 4/18).
<i>con-6</i>	Left of <i>arg-12</i> (2 or 3/18).	<i>lib-3</i>	Between <i>col-5</i> (3%) and <i>Pad-1</i> , <i>pyr-4</i> (1%), <i>ro-3</i> .
<i>col-5</i>	Between <i>T(P2869)</i> , <i>T(AR)18</i> ¹ and <i>het-c</i> (3%).	<i>het-c</i>	Right of <i>fl</i> (25%).
<i>cpd-4</i>	Right of <i>arg-12</i> (7%).	<i>het-d</i>	Between <i>cys-3</i> , <i>T(AR)18</i> ¹ , <i>cys-3</i> , <i>hsp70</i> , <i>un-24</i> and <i>T(AR)18</i> ¹ , <i>T(2869)</i> , <i>col-5</i> .
<i>cpi</i>	Between <i>arg-5</i> (3%) and <i>T(NM)177</i> ¹ , <i>pe</i> (6%).	<i>het-6</i>	Between <i>Fsr-55</i> and <i>Fsr-3</i> . On same plasmid with <i>aro-9</i> .
<i>cwl-1</i>	Between <i>arg-5</i> (3%; 6%) and <i>arg-12</i> (12%).	<i>hH3</i>	Adjoins <i>hH3</i> .
<i>cwl-2</i>	Between <i>arg-12</i> (10%), <i>un-20</i> (4%) and <i>fl</i> (9%).	<i>hH4-1</i>	

<i>hsp70</i>	Between <i>T(AR18)</i> ⁴ and <i>un-24</i> .	<i>Tel-11R</i>	Right of <i>leu-6</i> (1T, INPD/18 asci).
<i>leu-6</i>	Between <i>irp-3</i> (2/16), <i>Fsr-17</i> (5T/18 asci), and <i>Tel-11R</i> (1T, INPD/16 asci).	<i>Tip-11L</i>	Left of <i>T(AR30)</i> , <i>pi</i> (≥28%).
<i>ip</i>	Right of <i>thr-3</i> (10%).	<i>Tip-11R</i>	Right of <i>un-15</i> , <i>rip-1</i> .
<i>mcm</i>	Linked to <i>ro-7</i> (1%).	<i>thr-2</i>	Between <i>ro-3</i> , <i>T(NM149)</i> and <i>T(AR179)</i> , <i>bal</i> , <i>arg-5</i> (3%; 18%).
<i>mus-7</i>	Between <i>arg-5</i> (8%; 12%) and <i>nuc-2</i> (11%).	<i>thr-3</i>	Linked to <i>thr-2</i> (<0.1%).
<i>mus-23</i>	Between <i>fl</i> (<1%; 2%) and <i>irp-3</i> (9%).	<i>ing</i>	Between <i>pyr-4</i> (16%), <i>T(NM149)</i> and <i>arg-5</i> (6%, 14%). Linked to <i>thr-2</i> (2%).
<i>mus-24</i>	Left of <i>pyr-4</i> (8%).	<i>trp-3</i>	Between <i>fl</i> (2%, 6%), <i>mus-23</i> (6%) and <i>un-15</i> (10%).
<i>mus-27</i>	Right of <i>nuc-2</i> (16%).	<i>tic</i>	Between <i>pe</i> (8%) and <i>fl</i> (19%).
<i>nik-2</i>	Linked to <i>arg-12</i> (0/17).	<i>uc-1</i>	Linked to <i>pyr-4</i> (31%).
<i>nrc-2</i>	Linked to <i>arg-4</i> , <i>Fsr-55</i> .	<i>un-15</i>	Between <i>irp-3</i> (10%) and <i>rip-1</i> (1%).
<i>nuc-2</i>	Between <i>aro-3</i> , <i>T(NM177)</i> ⁴ and <i>preg</i> (1 or 2%), <i>pe</i> (4%).	<i>un-20</i>	Between <i>aro-1</i> (5%; 9%), <i>fl-1</i> (4%) and <i>ace-1</i> (15%).
<i>nuc-3</i>	Right of <i>arg-12</i> (4%). (<i>nuc-4</i> - <i>nuc-7</i>)	<i>un-24</i>	Between <i>T(AR18)</i> ⁴ , <i>hsp70</i> and <i>het-6</i> , <i>T(AR18)</i> ⁸ .
<i>nuc-5</i>	Linked to <i>trp-3</i> (30%), <i>T(4637)</i> .	<i>ure-3</i>	Between <i>arg-12</i> (7%; 12%) and <i>un-20</i> (8%).
<i>nuc-9</i>	Linked to <i>arg-5</i> . Left of <i>mus-7</i> , <i>nuc-2</i> .	<i>vma-2</i>	Between <i>preg</i> (6T/18 asci) and <i>Fsr-3</i> (1T/18 asci), <i>eas</i> (2T/18 asci).
<i>nuc78</i>	Linked to <i>preg</i> (0T/5 asci).	<i>vma-6</i>	Near <i>Cen-11</i> . In same cDNA fragment with <i>rap-1</i> .
<i>osr-2</i>	Linked to <i>arg-5</i> (≤12%).	<i>vma-10</i>	Linked near <i>arg-12</i> .
<i>Pad-1</i>	Between <i>het-c</i> and <i>pyr-4</i> (1%).	<i>vph-1</i>	Left of <i>Cen-11</i> (5T/18 asci), <i>Fsr-32</i> (4T/18 asci). Linked to <i>Fsr-32</i> (0T/18 asci).
<i>pe</i>	Between <i>nuc-2</i> (4%) and <i>arg-12</i> (1%, 5%).	<i>xch-1</i>	Linked to <i>pe</i> (14%).
<i>pi</i>	Linked to <i>ro-7</i> (0/75). Between <i>T(AR30)</i> (28%) and <i>cys-3</i> (4%).	<i>ypt-1</i>	Linked to <i>eas</i> (0T/17 asci).
<i>pma-1</i>	Between <i>cya-4</i> (2T/18 asci) and <i>preg</i> (1T/15 asci).		
<i>pmg</i>	Linked to <i>pyr-4</i> (<1%).		
<i>prd-5</i>	Between <i>arg-12</i> (4%; 10%) and <i>un-20</i> (8%).		
<i>preg</i>	Between <i>T(NM177)</i> ⁴ , <i>nuc-2</i> (1 or 2%) and <i>arg-12</i> , <i>T(NM177)</i> ⁸ .		
<i>pyr-4</i>	Between <i>het-c</i> (1%), <i>Pad-1</i> (1%) and <i>ro-3</i> (1 or 2%).		
<i>rap-1</i>	Adjacent to <i>vma-6</i> . Near <i>Cen-11</i> .		
<i>rip-1</i>	Between <i>un-15</i> (1%) and <i>Tip-11R</i> .		
<i>ro-3</i>	Between <i>pyr-4</i> (1 or 2%) and <i>T(NM149)</i> , <i>thr-2</i> (6%, 25%).		
<i>ro-7</i>	Linked to <i>pi</i> (0/75). Left of <i>cys-3</i> (11%).		
<i>scr</i>	Linked to <i>arg-12</i> (2%), probably to the left.		
<i>spco-14</i>	Linked to <i>arg-5</i> (7%).		
<i>su(mil-1)-3</i>	Linked to <i>fl</i> (31%).		
<i>su(mil-1)-4</i>	Linked to <i>fl</i> (22%), <i>arg-5</i> (40%).		
<i>su(mil-1)-10</i>	Linked to <i>arg-5</i> (29%), <i>fl</i> (24%).		
<i>T(UK4-22)</i>	Linked to <i>pe</i> (0/46) and <i>arg-12</i> , <i>aro-1</i> (0/23).		
<i>T(AR18)</i> ⁴	Between <i>ro-7</i> , <i>cys-3</i> and <i>hsp70</i> .		
<i>T(AR18)</i> ⁸	Between <i>het-6</i> and <i>col-5</i> . Within 5.6 kb of <i>T(P2869)</i> .		
<i>T(AR30)</i>	Between <i>Tip-11L</i> and <i>pi</i> (28%).		
<i>T(NM149)</i>	Between <i>ro-3</i> and <i>thr-2</i> , <i>thr-3</i> .		
<i>T(ALS176)</i>	Between <i>Cen-11</i> and <i>arg-5</i> .		
<i>T(NM177)</i> ⁴	Between <i>aro-3</i> <i>cpi</i> and <i>nuc-2</i> .		
<i>T(NM177)</i> ⁸	Between <i>arg-12</i> and <i>aro-1</i> .		
<i>T(OY337)</i>	Between <i>pe</i> and <i>arg-12</i> .		
<i>T(P2869)</i> ⁴	Between <i>Tip-11L</i> and <i>ro-7</i> .		
<i>T(P2869)</i> ⁸	Between <i>het-6</i> and <i>col-5</i> . Within 5.6 kb of <i>T(AR18)</i> ⁸ .		
<i>Tel-11L</i>	Linked to <i>hsp70</i> (2T/18 asci).		

III



LOCI IN LINKAGE GROUP III

adb-1
ace-2
acon-2
acr-2
acr-6
acr-7
acu-7
ad-2
ad-4
aza-3
cat-1
cat-3
Cen-III
col-16
com
con-1
con-7
cor-1
cox-4
cpk
cr-5
crp-2
cum
cyl-8
cyl-22

Linked to *trp-1*.
 Between *pro-1* (1%, 9%; 36kb) and *com* (5%), *ad-4* (4%; 7%).
 Linked to *vel* (6%), *trp-1* (9%; 14%).
 Linked to *Cen-III*. Between *acr-7* and *T(T54M140b)*, *thi-4* (0/286), *sc* (3%; 6%).
 Linked to *shg* (<1%).
 Between *r(Sk-2)-1* (7%), *T(NM183)* (5%) and *acr-2* (12%), *Cen-III*.
 Linked to *dow* (0/72).
 Between *thi-2* (1%) and *trp-1* (1%; 7%).
 Between *met-8* (1%; 4%), *com* (0; 5%) and *col-16*, *leu-1* (1%; 3%).
 Linked to *trp-1* (14%).
 Left of *trp-1* (17%).
 Linked to *Fsr-45* (2T/18 asci), *Tel-IIIR* (5T/18 asci).
 Between *acr-7* and *thi-4* (1T/18 asci), *sc* (2T/24 asci).
 Between *pro-1* (10%), *ad-4* and *leu-1* (1%).
 Between *ace-2* (5%) and *ad-4* (<1%; 5%).
 Left of *Cen-III* (6T/18 asci).
 Between *ace-2* (4T/18 asci), *cyl-8* (3T/18 asci) and *ad-2*, *trp-1* (0/17, 1T/18 asci).
 Linked to *dow* (1%), probably to the right.
 Linked to *acr-2* (1 or 2/15).
 Linked to *un-17* (5%).
 Linked to *ad-4* (19%).
 Linked to *Cen-III* (0T/18 asci).
 Between *Tip-III* and *r(Sk-2)-1* (4%), *acr-7* (5%; 18%).
 Near *ad-4*. Between *ace-2* (1 or 2T/18 asci) and *ad-2* (4T/18 asci), *trp-1* (3/18).
 Linked to *r(Sk-2)-1* (30%), *cum* (6%; 30%), *acr-7* (19%). Left of *cyl-8* (4/18).

dlim-1
Dip-1
dow
erg-3
ff-5
ff-6
fpr-3
Fsr-45
gluc-1
gna-1
gnb-1
het-7
hH4-2
his-7
lao
leu-1
mei-4
mel-3
met-8
mgk-1
mip-1
mo-4
mod(pr)
mus-20
mus-21
mus(S46)
mt-7
nuh-1

Linked to *mus-20*, *trp-1*.
 Between *ro-2* (7%) and *phe-2* (1%).
 Between *un-17* (23%), *T(ARI7)* and *T(ARI7)^R*, *erg-3* (10%; 14%).
 Between *dow* (10%; 14%), *T(ARI7)^R* and *Tip-IIIIR*.
 Between *pro-1* (2%) and *met-8* (1%).
 Near *ty-1*.
 Linked to *trp-1* (<1%), *thi-2* (5%).
 Between *ro-2* (3/18) and *cat-3* (2T, INPD/18 asci), *Tel-IIIR* (3T, INPD/18 asci).
 Linked to *dow* (10%).
 Linked to *ro-2* (0/17).
 Linked to *trp-1* (0/18).
 Between *T(D305)^L*, *T(UK8-18)^R* and *T(ARI7)^R*.
 Linked to *trp-1* (0/18).
 Between *leu-1* (8%; 20%) and *thi-2* (1 or 2%).
 Linked to *un-17* (5%).
 Between *ad-4* (1%; 5%), *col-6* (1%) and *his-7* (8%).
 Linked to *leu-1* (12%), probably to the left.
 Linked to *leu-1* (17%).
 Between *ace-2*, *ff-5* (1%; 4%), and *ad-4* (4%).
 By cosmid assignment to chromosomal DNA. Tentative.
 Linked to *trp-1* (1T/18 asci).
 Right of *leu-1* (8%).
 Between *leu-1* and *his-7*.
 Between *trp-1* (8%) and *phe-2* (18%).
 Linked to *trp-1* (20%). Right of *ad-2*.
 Left of *ad-2* (5%), *trp-1* (8%).
 Linked to *un-17* (0/63).
 Between *leu-1* (4%) and *nuh-2* (<1%), *trp-1* (11%).

LOC1' LINKAGE GROUP III (continued)

<i>nub-2</i>	Between <i>leu-1</i> (4%), <i>nub-1</i> (<1%) and <i>trp-1</i> (11%).	<i>Tip-III</i>	Left of <i>r(Sk-2)</i> , <i>cum</i> , <i>acr-7</i> .
<i>os-8</i>	Between <i>ad-2</i> and <i>trp-1</i> .	<i>Tip-III</i>	Marked by <i>T(OY320)</i> . Right of <i>dow</i> , <i>erg-3</i> .
<i>os-11</i>	Linked to <i>os-8</i> (19%).	<i>trk</i>	Between <i>leu-1</i> (0/92).
<i>ota</i>	Between <i>ad-4</i> (15%) and <i>tyr-1</i> (14%). Linked to <i>pro-4</i> (4%).	<i>trp-1</i>	Between <i>ad-2</i> (1%; 7%) and <i>ro-2</i> (2%; 12%).
<i>pgov</i>	Linked to <i>tyr-1</i> (1%; 4%), probably to the right.	<i>trx</i>	Adjoins <i>acr-2</i> .
<i>phe-2</i>	Linked to <i>vel</i> (1%). Between <i>T(D305)^L</i> and <i>tyr-1</i> (2%; 4%).	<i>tyr-1</i>	Linked to <i>tyr-1</i> (0%; 6%).
<i>pr(Sk-2)</i>	Between <i>Cen-III</i> , <i>ser-1</i> and <i>ad-4</i> , <i>leu-1</i> , <i>mod(pr)</i> .	<i>tyr-3</i>	Between <i>Cen-III</i> and <i>ad-4</i> .
<i>prd-1</i>	Linked to <i>acr-2</i> (5%), <i>Cen-III</i> (0/35 asc), <i>pro-1</i> (20%).	<i>tyr-1</i>	Between <i>vel</i> (3%; 5%), <i>phe-2</i> (2%; 4%) and <i>un-17</i> (4%).
<i>pro-1</i>	Between <i>ser-1</i> (1%; 114 kb) and <i>ace-2</i> (2%; 36kb).	<i>un-6</i>	Between <i>sc</i> (21%) and <i>leu-1</i> .
<i>pro-4</i>	Linked to <i>thi-2</i> (0/78), <i>ota</i> (4%).	<i>un-14</i>	Between <i>acr-2</i> , <i>thi-4</i> (8%; 20%) and <i>met-8</i> , <i>leu-1</i> (5%).
<i>r(Sk-2)</i>	Between <i>cum</i> (2%) and <i>T(NM183)</i> (2%), <i>acr-7</i> (7%).	<i>un-17</i>	Between <i>acr-2</i> and <i>met-8</i> , <i>un-6</i> .
<i>r(Sk-3)</i>	Between <i>cum</i> (4%) and <i>acr-7</i> (17%).	<i>un-21</i>	Left of <i>ad-4</i> (4%).
<i>rco-1</i>	Linked to <i>acr-2</i> (7%; 17%).	<i>uvs-4</i>	Linked to <i>vel</i> (1%).
<i>ro-2</i>	Between <i>trp-1</i> (2%; 14%) and <i>T(D305)^L</i> , <i>phe-2</i> (5%).	<i>uvs-5</i>	Linked to <i>phe-2</i> (1%).
<i>ro-11</i>	Linked to <i>dow</i> (0/70). Between <i>T(ARI7)^L</i> and <i>T(ARI7)^R</i> .	<i>vel</i>	Linked to <i>phe-2</i> (1%). Between <i>ro-2</i> (6%), <i>T(D305)^L</i> and <i>tyr-1</i> (3%; 5%).
<i>sc</i>	Between <i>acr-2</i> (3%; 6%), <i>Cen-III</i> (4T/230) and <i>ser-1</i> (4%). Linked to <i>thi-4</i> , <i>spg</i> (<1%).		
<i>scon-2</i>	Between <i>trp-1</i> and <i>Fsr-45</i> . Linked to <i>tyr-1</i> (18%).		
<i>ser-1</i>	Between <i>sc</i> (4%) and <i>pro-1</i> (1%; 9%; 114 kb).		
<i>ser-5</i>	Linked to <i>trp-1</i> (1%), <i>ser-1</i> (12%).		
<i>shg</i>	Linked to <i>trp-1</i> (7%), <i>acr-6</i> (0/368).		
<i>Sk-2</i>	A haplotype, <i>r(Sk-2)</i> through <i>leu-1</i> . Between <i>cum</i> (2%) and <i>his-7</i> (21%).		
<i>Sk-3</i>	A haplotype, <i>r(Sk-3)</i> through <i>leu-1</i> . Between <i>cum</i> (2%) and <i>his-7</i> (12%).		
<i>sor-3</i>	Linked to <i>ad-4</i> (7%).		
<i>spco-15</i>	Linked to <i>spg</i> (10%), <i>Cen-III</i> (0T/10 asc).		
<i>spg</i>	Linked to <i>sc</i> , <i>thi-4</i> (<1%). Between <i>acr-2</i> (1%; 11%) and <i>ser-1</i> (8%).		
<i>su(mit-1)-1</i>	Linked to <i>ad-4</i> (14%).		
<i>su(trp-3)^{ad}</i>	Linked to <i>leu-1</i> (22%).		
<i>T(UK8-18)^L</i>	Between <i>his-7</i> and <i>trp-1</i> .		
<i>T(UK8-18)^R</i>	Between <i>mit-7</i> and <i>het-7</i> .		
<i>T(DBL9)</i>	At <i>Tip-III</i> . Linked to <i>dow</i> (2/28).		
<i>T(ARI7)^L</i>	Between <i>tyr-1</i> and <i>dow</i> .		
<i>T(ARI7)^R</i>	Between <i>dow</i> and <i>erg-3</i> .		
<i>T(TS4M140b)</i>	Between <i>acr-2</i> and <i>thi-4</i> , <i>spg</i> (0/34).		
<i>T(ARI77)</i>	Near <i>Cen-III</i> , probably to the right.		
<i>T(NM183)</i>	Between <i>r(Sk-2)-1</i> (2%) and <i>acr-7</i> (5%).		
<i>T(D305)^L</i>	Between <i>ro-2</i> and <i>phe-2</i> .		
<i>T(D305)^R</i>	Right of <i>dow</i> .		
<i>T(OY320)</i>	At <i>Tip-III</i> . Linked to <i>dow</i> (3/30).		
<i>T(OY329)</i>	At <i>Tip-III</i> . Linked to <i>trp-1</i> (4/42).		
<i>T(OY339)</i>	Near <i>Cen-III</i> , probably to the left.		
<i>Tel-III</i>	Linked to <i>cat-3</i> (5T/18 asc).		
<i>thi-2</i>	Between <i>his-7</i> (1 or 2%) and <i>ad-2</i> (1%; 3%).		
<i>thi-4</i>	Between <i>Cen-III</i> (1T/18 asc) and <i>pro-1</i> (3%; 1T/18 asc). Linked to <i>spg</i> , <i>sc</i> (<1%).		

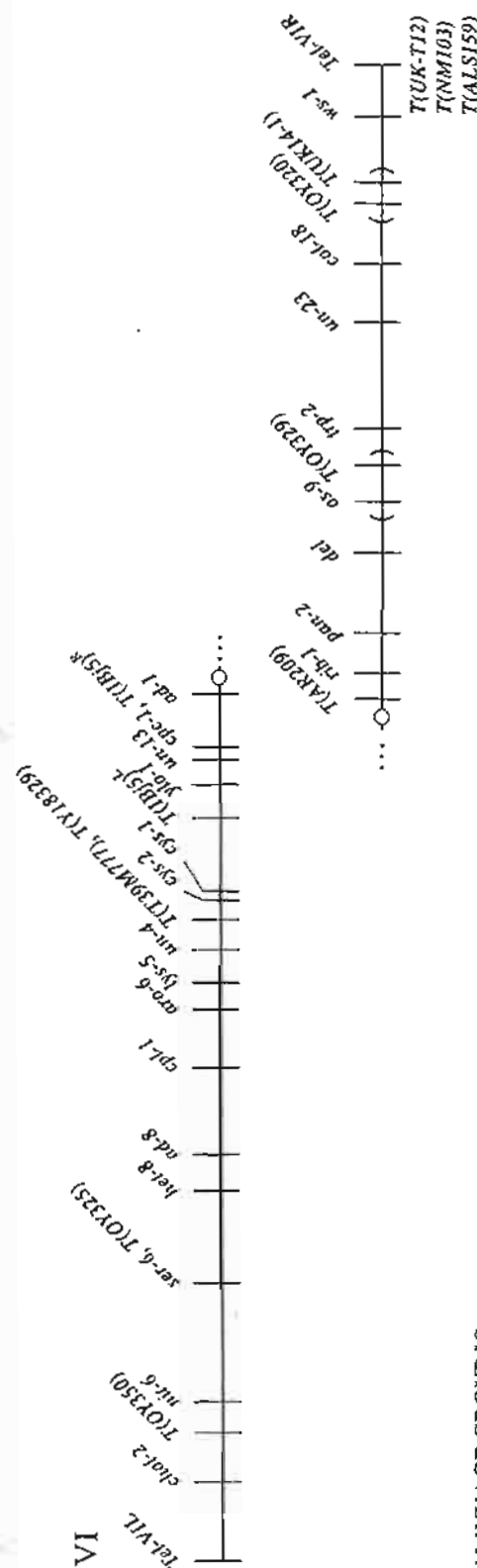
LOCUS	LINKAGE GROUP IV (continued)	
<i>his-4</i>	Between <i>col-1</i> (1%; 4%) and <i>met-5</i> (4%).	Between <i>arg-14</i> T(S1229) ^R , <i>cys-19</i> (5%), T(NM152) ^L and <i>his-5</i> (
<i>his-5</i>	Between <i>pyr-3</i> (1%) and <i>col-1</i> (3%; 7%). Linked to <i>cys-19</i> (5%; 9%).	Between <i>met-5</i> (1/18) and <i>nit-3</i> (2/18).
<i>hss-1</i>	Linked to <i>cys-4</i> (2%).	Between T(S4342) ^L and <i>chl-1</i> .
<i>htr-1</i>	Linked to <i>bd</i> (27%).	Linked to <i>pan-1</i> (<1%).
<i>ilv-3</i>	Linked to <i>met-2</i> (0/129). Between <i>leu-2</i> (4%) and <i>ad-6</i> (9%).	Linked to <i>pdx-1</i> (0/88).
<i>int</i>	Linked to <i>pan-1</i> (0/50).	Between <i>pyr-2</i> (3%) and T(NM152) ^R , <i>cys-4</i> (10%).
<i>leu-2</i>	Linked to <i>pan-1</i> (1 or 2%). Right of <i>col-1</i> (14%).	<i>sdv-1</i> , -2, and -3 Between T(L1V/L (12T, ONPD/18 asc) and <i>Cen-IV</i> (≤2T/18 asc).
<i>leu-2</i>	Between <i>trp-4</i> (2%) and <i>ilv-3</i> (4%).	<i>sdv-7</i> , -8, and -9 Right of <i>trp-4</i> (5T/18 asc), <i>crp-3</i> (1T/18 asc).
<i>med</i>	Linked to <i>met-5</i> (5%), <i>pan-1</i> (8%).	<i>sdv-11</i> , <i>sdv-12</i> Between <i>pyr-1</i> (4T/18 asc) and <i>trp-4</i> (3T/18 asc).
<i>met-1</i>	Linked to <i>arg-2</i> (<1%), probably to the right.	<i>ser-4</i> Right of <i>arg-2</i> (<1%).
<i>met-1</i>	Between <i>oxD</i> (3%), T(B362) ^L and T(B362) ^R , <i>mus-26</i> (2%), <i>col-4</i> (4%).	Linked to <i>pan-1</i> (8%).
<i>met-2</i>	Linked to <i>ilv-3</i> (0/129). Between <i>trp-4</i> (6%) and <i>pan-1</i> (4%).	Linked to <i>pan-1</i> (1%; 7%), <i>smco-4</i> (30%).
<i>met-5</i>	Between <i>his-4</i> (4%) and <i>nit-3</i> (15%).	Linked to <i>pan-1</i> (5%), <i>smco-4</i> (2%), <i>smco-8</i> (13%).
<i>mlh-1</i>	Linked to <i>mir</i> (0/18).	Linked to <i>pyr-1</i> (0T/18 asc).
<i>mod(sc)</i>	Linked to <i>pan-1</i> (17%).	Linked to <i>pan-1</i> (23%).
<i>mo-3</i>	Left of <i>pan-1</i> (17%; 25%), <i>bd</i> (20%).	Linked to <i>asn</i> (6%).
<i>mir</i>	Between <i>pdx-1</i> (2%) and <i>col-4</i> (1%).	Linked to <i>arg-2</i> (14%).
<i>mus-8</i>	Linked to <i>mir</i> (1%).	Between <i>his-4</i> and <i>nit-3</i> .
<i>mus-17</i>	Between <i>pan-1</i> (2%) and <i>cys-4</i> (25%).	At <i>Tip-IVL</i> . Linked to <i>cys-10</i> (0/70).
<i>mus-26</i>	Between <i>met-1</i> (2%) and <i>col-4</i> (3%), <i>arg-2</i> (2%).	At <i>Tip-IVR</i> . Linked to <i>uvr-2</i> (0/49).
<i>mus-30</i>	Between <i>mir</i> (8%) and <i>trp-4</i> (4%).	Between <i>arg-14</i> , <i>cys-19</i> and <i>pyr-3</i> .
<i>mut-1</i>	Between <i>pan-1</i> and <i>uvr-2</i> .	Between <i>rug</i> and <i>cys-4</i> .
<i>nada</i>	Linked to <i>trp-4</i> (<3%).	Between <i>psi</i> and <i>pdx-1</i> .
<i>ndp64</i>	Left of <i>ad-6</i> (18%).	At <i>Tip-IVR</i> . Linked to <i>uvr-2</i> (1/51).
<i>nit-3</i>	Linked to <i>Fer-4</i> (0T/18 asc), <i>Tel-IVR</i> (1T/18 asc).	At <i>Tip-IVR</i> . Linked to <i>uvr-2</i> (1/29).
<i>nit-4</i>	Between <i>met-5</i> (15%), <i>bd</i> (19%) and <i>pyr-2</i> (2%; 9%).	At <i>Tip-IVR</i> . Linked to <i>rug</i> (3/50).
<i>nit-9</i>	Between <i>pyr-1</i> (1%; 6%) and <i>pan-1</i> (6%; 27%).	Between <i>met-1</i> and <i>col-4</i> .
<i>nuo21</i>	Right of <i>nit-4</i> (9%).	Between <i>cys-15</i> and <i>met-1</i> .
<i>nuo29</i>	Linked to <i>Tel-IVR</i> (1T/18 asc), <i>Fer-4</i> (1 or 2T/18 asc).	Between <i>pdx-1</i> and <i>cys-15</i> .
<i>opi-1</i>	Between <i>trp-4</i> (8 or 9T, INPD/18 asc) and <i>Tel-IVR</i> (8T, INPD/18 asc).	At <i>arg-14</i> .
<i>os-2</i>	Linked to T(R2355), <i>col-1</i> (9%).	Between <i>col-1</i> (1/63) and <i>his-4</i> .
<i>os-10</i>	Right of <i>col-1</i> (4%).	Between <i>arg-2</i> and <i>arg-14</i> .
<i>osr-1</i>	Linked to <i>trp-4</i> (20%).	Between <i>uvr-2</i> and <i>pmb</i> , <i>Tip-IVR</i> .
<i>oxD</i>	Between <i>pdx-1</i> (0T/55 asc), T(S1229) ^L and T(B62) ^L , <i>met-1</i> (3%).	Linked to <i>nuo21</i> (1T/18 asc).
<i>pan-1</i>	Between <i>ad-6</i> (1 or 2%) and <i>col-1</i> (2 or 3%).	Linked to <i>pan-1</i> (1%).
<i>pdx-1</i>	Between <i>pyr-1</i> (1%; 10%) and T(S1229) ^L , <i>pt</i> (2%).	Marked by T(AR33). Left of <i>uvr-3</i> , <i>acon-3</i> , <i>cys-10</i> .
<i>pf</i>	Right of <i>pyr-2</i> (2%). Linked to <i>rug</i> (3%).	Marked by T(AR209) and other translocations. Right of <i>cys-4</i> , <i>uvr-2</i> , <i>pmb</i> .
<i>pho-3</i>	Linked to <i>pan-1</i> (<1%).	Between <i>his-5</i> and <i>trp-4</i> (1%).
<i>pho-5</i>	Between <i>pan-1</i> (5%; 2T/18 asc) and <i>trp-4</i> (4T/18 asc), <i>col-1</i> (15%).	Linked to <i>pho-5</i> (0T/18 asc).
<i>pmb</i>	Between <i>uvr-2</i> (8%), T(S4342) ^R and <i>Tip-IVR</i> .	Between <i>his-5</i> (3%; 7%), <i>tol</i> (1%) and <i>leu-2</i> (1 or 2%).
<i>pplh-1</i>	Linked to <i>mir</i> (0/18), <i>arg-14</i> (1/18).	Right of <i>col-1</i> (32%).
<i>psi-1</i>	Between <i>Cen-IV</i> and T(ALS159), <i>pyr-1</i> (4%).	Linked to <i>met-5</i> (7%).
<i>pl</i>	Between <i>pdx-1</i> (2%), T(S1229) ^L and <i>col-4</i> (2%).	Linked to <i>pyr-1</i> (0/47). Between T(ALS159) and <i>col-4</i> (5%).
<i>puu-1</i>	Between <i>arg-2</i> (5%) and <i>col-1</i> (8%).	Linked to <i>pdx-1</i> (5%) <i>col-4</i> (0/73).
<i>pyr-1</i>	Between <i>psi-1</i> (4%), T(ALS159) and <i>pdx-1</i> (<1%; 10%).	Between <i>cys-4</i> (5%) and T(S4342) ^R , <i>pmb</i> (8%).
<i>pyr-2</i>	Between <i>nit-3</i> (2%; 9%) and <i>rug</i> (3%), T(NM152) ^R .	Linked to <i>cys-10</i> (3%; 7%), probably to the left.
		Near <i>Fsr-62</i> .
		Right of <i>trp-4</i> (3T/18 asc).

LOCI IN LINKAGE GROUP V (continued)

<i>glp-6</i>	Left of <i>int</i> (30%).	<i>pab-2</i>	Linked to <i>ro-4</i> (0/407). Between <i>ad-7</i> (8%), <i>T(EB4)⁸</i> and <i>inv</i> (3%).
<i>gna-2</i>	Linked to <i>int</i> (0/18).	<i>pcna</i>	Linked to <i>rDNA</i> (0T/18 asci).
<i>gran</i>	Between <i>pab-2</i> (1%; 8%) and <i>his-6</i> (8%; 27%).	<i>per-1</i>	Between <i>asp</i> (16%; 26%) and <i>ilv-1</i> (4%).
<i>gul-1</i>	Between <i>am</i> (<0.1%) and <i>ace-5</i> (<1%).	<i>pho-2</i>	Between <i>his-1</i> (3%) and <i>int</i> (4%).
<i>hah</i>	Linked to <i>int</i> (13%).	<i>pk</i>	Between <i>met-3</i> (1%) and <i>T(EB4)¹</i> , <i>cat-2</i> (8%).
<i>hgu-4</i>	Between <i>cyh-2</i> (7%) and <i>ure-2</i> (10%).	<i>pl</i>	Linked to <i>gran</i> (0/75). Between <i>asn</i> (1%, 9%) and <i>his-6</i> (16%).
<i>hH1</i>	Linked to <i>cog-9</i> , <i>pho-4</i> .	<i>Pogo</i>	Adjoins <i>Tel-VR</i> .
<i>his-1</i>	Between <i>am</i> (3%), <i>ure-1</i> (1%) and <i>pho-2</i> (3%), <i>al-3</i> , <i>int</i> (1%; 10%).	<i>poi-1</i>	Linked to <i>cyh-2</i> (0T/18 asci).
<i>his-6</i>	Between <i>oak</i> (6%) and <i>T(M149)</i> (0/499), <i>Tel-VR</i> (30 kb).	<i>pol-d</i>	Between <i>ure-2</i> (<70kb) and <i>am</i> (10kb).
<i>hsp80</i>	Between <i>int</i> (3T/18 asci), <i>cya-2</i> (2T/18 asci) and <i>tom70</i> (1/17 asci).	<i>ppt-1</i>	Linked to <i>int</i> (0/18).
<i>hsp83</i>	Linked to <i>cmd</i> , <i>hsp80</i> (0/18 asci).	<i>prd-2</i>	Between <i>lys-2</i> and <i>am</i> .
<i>lasc</i>	Right of <i>Cen-V</i> .	<i>prd-6</i>	Linked to <i>ad-7</i> . Between <i>int</i> (9%; 30%) and <i>pab-2</i> (2%).
<i>ilv-1</i>	Between <i>per-1</i> (4%) and <i>ilv-2</i> (<1%; 9%), <i>lys-2</i> (4%; 7%).	<i>Prf</i>	Linked to <i>al-3</i> (3%), probably to the right.
<i>ilv-2</i>	Between <i>ilv-1</i> (<1%; 9%) and <i>lys-2</i> .	<i>pro-3</i>	Linked to <i>int</i> , <i>pab-1</i> (0/74). Between <i>his-1</i> (4%) and <i>pk</i> (2%; 6%).
<i>Int(UK2-y)¹</i>	Breakpoint in NOR.	<i>psp</i>	Between <i>al-3</i> (10%; 22%) and <i>his-6</i> (22%; 24%).
<i>Int(UK2-y)²</i>	Breakpoint at <i>am</i> .	<i>pvl(PCNA)</i>	Linked to <i>NOR</i> .
<i>int</i>	Between <i>al-3</i> (1%; 1/18 asci) and <i>pab-2</i> (1%; 10%).	<i>pyr-6</i>	Between <i>asn</i> (6%) and <i>un-9</i> (2%).
<i>inv</i>	Between <i>ro-4</i> (5%; 8%), <i>pab-2</i> (3%), <i>mus-11</i> (4%) and <i>asn</i> (4%; 9%).	<i>rca-1</i>	Linked to <i>cyh-2</i> (0T/16 asci).
<i>leu-5</i>	Between <i>cyh-2</i> (1%) and <i>sp</i> (3%; 9%).	<i>rDNA</i>	Between <i>Tip-VL</i> and <i>mus-18</i> (0T/17 asci; 20kb), <i>dgr-1</i> . In the NOR.
<i>lis-3</i>	Right of <i>int</i> (4%).	<i>rec-1</i>	Between <i>ro-4</i> (7%) and <i>asn</i> (5%).
<i>lys-1</i>	Between <i>caf-1</i> (4%; 7%) and <i>cyt-9</i> (5%), <i>at</i> (1%; 7%; 20%).	<i>rec-2</i>	Between <i>sp</i> (1%; 6%) and <i>am</i> (2%).
<i>lys-2</i>	Between <i>ilv-1</i> , <i>ilv-2</i> (4%; 7%) and <i>cyh-2</i> (<1%), <i>leu-5</i> (9%).	<i>ro-4</i>	Linked to <i>pab-2</i> (0/407). Between <i>ad-7</i> (4%), <i>T(EB4)⁸</i> and <i>inv</i> (5%).
<i>mc</i>	Linked to <i>cyh-2</i> .	<i>rol-3</i>	Between <i>ilv-1</i> (2%) and <i>cot-4</i> (5%).
<i>mcb</i>	Linked to <i>al-3</i> (3%; 1T/18 asci), <i>cyh-2</i> , <i>sod-2</i> (0T/18 asci).	<i>sat</i>	At <i>Tip-VL</i> , distal to <i>NOR</i> .
<i>md</i>	Between <i>sh</i> (3%) and <i>sp</i> (9%).	<i>scon-1</i>	Probably linked to <i>his-6</i> .
<i>mei-2</i>	Between <i>inv</i> (18%) and <i>his-6</i> (12%).	<i>scot</i>	Between <i>al-3</i> (7%) and <i>his-6</i> (11%).
<i>met-3</i>	Between <i>pab-1</i> (1%), <i>trp-5</i> (4%) and <i>pk</i> (1%).	<i>sdv-6</i>	Linked to <i>crp-4</i> (0T/18 asci). Right of <i>int</i> (9T/18 asci).
<i>mya-1</i>	Linked to <i>leu-5</i> (0T/18 asci).	<i>sen</i>	Between <i>his-1</i> (4%) and <i>al-3</i> (13%).
<i>mus-11</i>	Between <i>ad-7</i> (6%; 11%), <i>pab-2</i> (7%) and <i>inv</i> (4%), <i>un-9</i> (10%), <i>mei-2</i> (5%; 10%).	<i>ser-2</i>	Between <i>met-3</i> (4%) and <i>T(EB4)¹</i> , <i>cot-2</i> (5%; 8%).
<i>mus-12</i>	Left of <i>int</i> (10%).	<i>sh</i>	Between <i>ilv</i> (4%; 7%) and <i>mid</i> (3%).
<i>mus-16</i>	Between <i>caf-1</i> (4%) and <i>lys-1</i> (9%).	<i>smco-6</i>	Linked to <i>asn</i> (6%) near <i>pyr-6</i> .
<i>mus-18</i>	Linked to <i>rDNA</i> (0T/17 asci), <i>con-2</i> (2/17 asci), <i>T(AR190)</i> (<3%).	<i>smco-7</i>	Right of <i>ilv-1</i> (2%). Linked to <i>rol-3</i> (0/154), <i>sp</i> (12%).
<i>mus-28</i>	Left of <i>lys-1</i> (10%).	<i>sod-2</i>	Linked to <i>cyh-2</i> (0T/18 asci).
<i>mus-34</i>	Between <i>leu-5</i> , <i>ure-2</i> and <i>am</i> , <i>his-1</i> (3%).	<i>sor-5</i>	Linked to <i>his-1</i> .
<i>mus-37</i>	Between <i>lys-1</i> and <i>cyh-2</i> .	<i>sp</i>	Between <i>leu-5</i> (3%; 9%) and <i>ure-2</i> (8%; 8%), <i>am</i> (1%; 8%; 450 kb).
<i>mus(SC17)</i>	Left of <i>int</i> (27%).	<i>spco-9</i>	Linked to <i>asn</i> (6%); right of <i>met-3</i> (18%).
<i>nap</i>	Linked to <i>int</i> (15%). Right of <i>ure-2</i> (32%).	<i>spco-10</i>	Between <i>ilv-1</i> (24 and <i>int</i> (5%).
<i>nde-1</i>	Left of <i>arg-4</i> (2%), <i>int</i> (6%).	<i>spe-1</i>	Between <i>am</i> (1%) and <i>his-1</i> (1%).
<i>nmr</i>	Between <i>am</i> (3%; 7%) and <i>gln-1</i> (4%; 10%).	<i>spe-2</i>	Left of <i>am</i> (6%), <i>spe-1</i> .
<i>NOR</i>	Between <i>Tip-VL</i> , <i>sat</i> and <i>T(AR30)</i> , <i>dgr-1</i> . Involved in numerous rearrangements.	<i>spe-3</i>	Right of <i>int</i> (4%).
<i>nih-3</i>	Between <i>cyh-2</i> (4%) and <i>al-3</i> (17%).	<i>ssu-6</i>	Linked to <i>his-1</i> (4%).
<i>nuo21.3a</i>	Left of <i>int</i> (18%), <i>inv</i> (22%).	<i>su(het-d)</i>	Near <i>lys-1</i> .
<i>nuo24</i>	Linked to <i>cyh-2</i> (0T/18 asci).	<i>su(het-1)</i>	Right of <i>met-3</i> (4%).
<i>oak</i>	Between <i>un-9</i> (7%) and <i>T(DBL9)</i> , <i>his-6</i> (6%).	<i>su(lmi-1)-f</i>	Left of <i>int</i> (10%).
<i>pab-1</i>	Between <i>int</i> (1%; 10%) and <i>trp-5</i> , <i>met-3</i> (1 or 2%).	<i>T(UK1-35)</i>	Breakpoint in <i>NOR</i> .

LOCI IN LINKAGE GROUP V (continued)

<i>T(UK2-32)</i>	Breakpoint in <i>NOR</i> .
<i>T(UK3-41)^L</i>	Between <i>his-1</i> and <i>al-3</i> .
<i>T(UK3-41)^R</i>	Between <i>pyr-6</i> and <i>oak</i> .
<i>T(EB4)^L</i>	Between <i>pk</i> , <i>ser-1</i> and <i>cot-2</i> , <i>wa</i> .
<i>T(EB4)^R</i>	Between <i>ad-7</i> and <i>ro-4</i> , <i>pab-2</i> .
<i>T(UK4-22)</i>	Breakpoint in <i>NOR</i> .
<i>T(DBL9)</i>	Between <i>oak</i> and <i>Tip-R</i> . Left of <i>his-6</i> (0/48).
<i>T(UK14-1)</i>	Breakpoint in <i>NOR</i> .
<i>T(AR30)</i>	Between <i>Tip-VL</i> and <i>caf-1</i> .
<i>T(AR33)</i>	Between <i>caf-1</i> and <i>lys-1</i> .
<i>T(R55)</i>	Breakpoint in <i>NOR</i> .
<i>T(MB67)^L</i>	Between <i>caf-1</i> and <i>lys-1</i> .
<i>T(MB67)^R</i>	Between <i>cyl-9</i> and <i>Cen-V</i> .
<i>T(NM149)</i>	Linked to <i>his-6</i> (0/499).
<i>T(NM169d)</i>	Linked to <i>NOR</i> at <i>Tip-VL</i> .
<i>T(ALS176)</i>	Breakpoint in <i>NOR</i> .
<i>T(ALS182)</i>	Breakpoint in <i>NOR</i> .
<i>T(AR190)</i>	Breakpoint in <i>NOR</i> .
<i>T(OY321)</i>	Breakpoint in <i>NOR</i> .
<i>Tel-VR</i>	Linked to <i>his-6</i> (30kb).
<i>Tip-VL</i>	Marked by <i>sat</i> , <i>NOR</i> , rearrangements. Left of <i>mus-18</i> , <i>dgr-1</i> .
<i>Tip-VR</i>	Marked by <i>T(NM149)</i> . Right of <i>his-6</i> .
<i>tom40</i>	Linked to <i>cyh-2</i> (0T/15 asci).
<i>tom70</i>	Right of <i>int1</i> (6 or 7T/17 asci).
<i>trp-5</i>	Between <i>int1</i> , <i>pab-1</i> and <i>met-3</i> (4%).
<i>ts</i>	Linked to <i>int1</i> (4%).
<i>udk</i>	Between <i>int1</i> (12%) and <i>his-6</i> (11%).
<i>un-9</i>	Left of <i>uc-4</i> (29%).
<i>un-11</i>	Between <i>pyr-6</i> (3%) and <i>oak</i> (7%), <i>his-6</i> (5%; 7%).
<i>un-19</i>	Left of <i>his-1</i> (<1%).
<i>ure-1</i>	Linked to <i>al-3</i> (9%), <i>un-11</i> (14%).
<i>ure-2</i>	Between <i>ace-5</i> (<1%) and <i>his-1</i> (<1%).
<i>usg-1</i>	Between <i>sp</i> (8%) and <i>am</i> (2%), <i>ure-1</i> (3%).
<i>val</i>	Linked to <i>am</i> (3.5kb).
<i>vma-1</i>	Linked to <i>ilv-2</i> (0/135).
<i>vma-3</i>	Between <i>leu-5</i> (1/18 asci), <i>sp</i> (8%) and <i>am</i> (2%), ~40kb, <i>al-3</i> (1/18 asci).
<i>wa</i>	Between <i>his-1</i> and <i>al-3</i> . Linked to <i>leu-5</i> (0T/17 asci), <i>vma-1</i> (~1100kb), <i>cyh-2</i> . Between <i>pk</i> , <i>T(EB4)^L</i> and <i>ad-7</i> (4%).

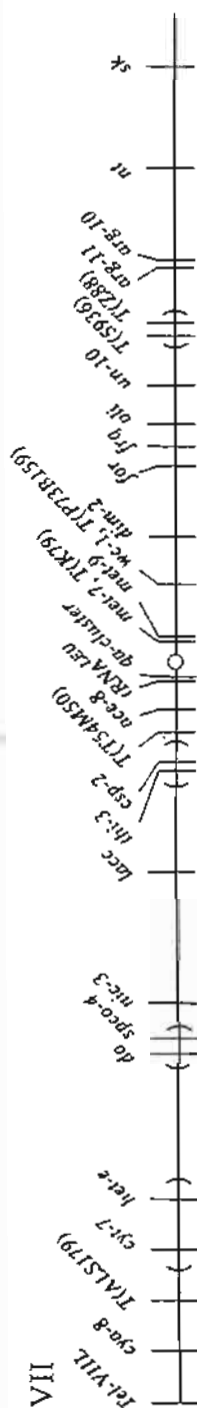


LOC IN LINKAGE GROUP VI

<i>acu-6</i>	Left of <i>cys-1</i> (3%).	<i>het-8</i>	Between <i>ser-6</i> (8%) and <i>ad-8</i> (3%, 12%).
<i>ad-1</i>	Between <i>ylo-1</i> (6%) and <i>Cen-VI</i> (1 or 2%), <i>gip-4</i> (0; 2%).	<i>het-9</i>	Between <i>T(4R209)</i> and <i>T(OY329)^r</i> , hence, between <i>Cen-VI</i> and <i>irp-2</i> .
<i>ad-8</i>	Between <i>ser-6</i> (15%) and <i>cpl-1</i> (7%, 11%), <i>aro-6</i> (12%).	<i>hspp-1</i>	Linked to <i>Bml</i> , <i>Cen-VI</i> , <i>pan-2</i> (OT/18 asci).
<i>age-2</i>	Right of <i>ws-1</i> (8%).	<i>lgd^r</i>	Linked to <i>chol-2</i> (7/32). Between <i>Tip-VIL</i> and <i>T(OY350)</i> .
<i>aro-6</i>	Between <i>ad-8</i> (8%; 12%), <i>cpl-1</i> (5%) and <i>lys-5</i> (3%).	<i>lys-2</i>	Between <i>chol-2</i> (11%) and <i>irp-2</i> (26%).
<i>asd-1</i>	Between <i>nio 19.3</i> (5T/18 asci) and <i>cmt</i> (2 or 3 T/18 asci), <i>Bml</i> (5 or 6T/18 asci).	<i>lys-5</i>	Between <i>cyl-2</i> (6%), <i>aro-6</i> (3%) and <i>un-4</i> (2%).
<i>asd-3</i>	Adjoins <i>asd-1</i>	<i>mod-5</i>	Linked to <i>Cen-VI</i> (3% 2nd division), <i>irp-2</i> .
<i>Bml</i>	Between <i>cys-2</i> (2%), <i>cpc-1</i> and <i>ad-1</i> , <i>Cen-VI</i> .	<i>moe-2</i>	Linked to <i>irp-2</i> (4%), probably to the left.
<i>cax</i>	Linked to <i>Tel-VIL</i> (3T/18 asci).	<i>mus-14</i>	Linked to <i>lys-5</i> .
<i>Cen-VI</i>	Between <i>ad-1</i> (1 or 2%) and <i>T(4R209)</i> , <i>rib-1</i> (1%, 4%), <i>pan-2</i> (2%).	<i>mus-29</i>	Between <i>chol-2</i> (14%) and <i>lys-5</i> (15%).
<i>chol-2</i>	Between <i>Tip-VIL</i> and <i>nit-6</i> (6%; 8%).	<i>mus-39</i>	Right of <i>ylo-1</i> (3%; 8%). Linked to <i>mis-29</i> (10%).
<i>chr</i>	Between <i>chol-2</i> (10%) and <i>pan-2</i> .	<i>nit-6</i>	Between <i>chol-2</i> (6%), <i>T(OY350)</i> and <i>ser-6</i> (11%).
<i>cmt</i>	Between <i>asd-1</i> (2T/18 asci) and <i>Bml</i> , <i>Cen-VI</i> 1/18; 1T/18 asci).	<i>nih-10</i>	Linked to <i>trp-2</i> .
<i>col-18</i>	Between <i>un-23</i> (3/28) and <i>T(OY320)</i> .	<i>nio 19.3</i>	Between <i>gdh-1</i> (9T/18 asci) and <i>asd-1</i> (5T/18 asci), <i>Bml</i> (10T/18 asci).
<i>con-3</i>	Linked to <i>Bml</i> (0/18).	<i>nuo 21.3c</i>	Linked to <i>Tel-VIR</i> (0 or 1T/18 asci).
<i>con-11</i>	Right of <i>Cen-VI</i> (6T/17 asci). Linked to <i>irp-2</i> (0/18).	<i>nuo 30.4</i>	Linked to <i>Bml</i> , <i>Cen-VI</i> , <i>pan-2</i> (OT/18 asci).
<i>cpc-1</i>	Between <i>ylo-1</i> (1%; 3%, 143 kb), <i>un-13</i> (105kb) and <i>Cen-VI</i> .	<i>os-9</i>	Between <i>ad-1</i> , <i>del</i> and <i>irp-2</i> .
<i>cpl-1</i>	Between <i>ad-8</i> (7%, 11%) and <i>aro-6</i> (5%), <i>lys-5</i> (6%), <i>un-25</i> (2%, 4%).	<i>pan-2</i>	Between <i>rib-1</i> (<1%; 3%) and <i>del</i> (6%), <i>irp-2</i> (11%).
<i>cya-3</i>	Between <i>chol-2</i> (10%) and <i>cyl-2</i> (10%).	<i>rib-1</i>	Between <i>Cen-VI</i> (1%), <i>gip-4</i> (4%), <i>T(4R209)</i> and <i>pan-2</i> (3%).
<i>cys-1</i>	Between <i>cys-2</i> (1%; 3%), <i>cyl-2</i> (8%).	<i>ser-6</i>	Between <i>nit-6</i> (10%) and <i>het-8</i> (8%), <i>ad-8</i> (16%).
<i>cys-2</i>	Between <i>un-4</i> (4%), <i>T(T39M777)</i> , <i>T(T18329)</i> and <i>cys-1</i> (1%; 3%).	<i>ser-1</i>	Left of <i>ylo-1</i> (3%).
<i>cyl-2</i>	Between <i>cya-3</i> (10%) and <i>lys-5</i> (6%).	<i>spco-7</i>	Linked to <i>ad-1</i> (0/65). Between <i>ylo-1</i> (4%) and <i>T(4R209)</i> .
<i>cyl-15</i>	Between <i>pan-2</i> (4%) and <i>os-9</i> , <i>T(OY329)</i> , <i>irp-2</i> (0; 13%).	<i>spco-13</i>	Linked to <i>irp-2</i> (16%), <i>Cen-VI</i> (1/10 asci).
<i>del</i>	Between <i>pan-2</i> (6%) and <i>os-9</i> , <i>T(OY329)</i> , <i>irp-2</i> (0; 13%).	<i>ssu-7</i>	Between <i>ad-8</i> (8%) and <i>ylo-1</i> (14%).
<i>edr-1</i>	Linked to <i>ad-1</i> , <i>pan-2</i> (<1%).	<i>su(mir^{ph})</i>	Linked to <i>pan-2</i> , <i>irp-2</i> . Right of <i>Cen-VI</i> .
<i>edr-2</i>	Left of <i>ad-1</i> (19%).	<i>su(irp-5)</i>	Near <i>aro-6</i> (Perhaps an allele).
<i>fpr-6</i>	Between <i>pan-2</i> and <i>irp-2</i> .	<i>T(BJ5)^r</i>	Between <i>cys-1</i> and <i>ylo-1</i> .
<i>Fsr-50</i>	Linked to <i>Bml</i> (0/18), <i>Cen-VI</i> , <i>pan-2</i> (OT/18 asci).	<i>T(BJ5)^r cpc-1</i>	At <i>cpc-1</i> .
<i>gdh-1</i>	Linked to <i>tom22</i> (OT/16 asci).	<i>T(UK-T12)</i>	At <i>Tip-VIR</i> .
<i>gip-4</i>	Between <i>ad-1</i> (0; 2%), <i>cmt</i> and <i>rib-1</i> (3%; 4%).	<i>T(UK14-1)</i>	Between <i>un-23</i> and <i>ws-1</i> .
<i>gul-5</i>	Linked to <i>irp-2</i> (10%).		

LOCI IN LINKAGE GROUP VI (continued)

<i>T(T39M777)</i>	Between <i>un-4</i> and <i>cys-1</i> .
<i>T(NM103)</i>	At <i>Tip-VTR</i> .
<i>T(ALS159)</i>	At <i>Tip-VTR</i> .
<i>T(AR209)</i>	Between <i>Cen-VI</i> and <i>rib-1</i> .
<i>T(OY320)</i>	Between <i>un-23</i> and <i>ws-1</i> .
<i>T(OY329)</i>	Between <i>del</i> and <i>irp-2</i> .
<i>T(OY343)</i>	At <i>Tip-VTR</i> .
<i>T(OY347)</i>	At <i>Tip-VIL</i> .
<i>T(OY350)</i>	Between <i>chol-2</i> and <i>nit-6</i> .
<i>T(Y18329)</i>	Between <i>un-4</i> and <i>cys-1</i> .
<i>Tel-VTL</i>	Linked to <i>cax</i> (3T/18 asci).
<i>Tel-VTR</i>	Linked to <i>T(UK-T12)</i> (0/13; 0T/9 asci), <i>nuo21</i> 3c (0T/18 asci).
<i>if2d</i>	Left of <i>T(T39M777)</i> .
<i>tim17</i>	Linked to RFLP markers.
<i>Tip-VIL</i>	Left of <i>chol-2</i> .
<i>Tip-VTR</i>	Marked by <i>T(NM103)</i> and others. Right of <i>ws-1</i> , <i>col-18</i> .
<i>tom22</i>	Linked to <i>gdh-1</i> (0T/16 asci), <i>nuo19</i> 3 (9T/18 asci).
<i>irp-2</i>	Between <i>del</i> (0; 13%), <i>T(OY329)</i> and <i>un-23</i> (5%; 27%).
<i>un-4</i>	Between <i>lys-5</i> (2%, in the same plasmid) and <i>T(T39M777)</i> , <i>un-13</i> (3%).
<i>un-13</i>	Between <i>ylo-1</i> (2%; 38kb) and <i>cpc-1</i> (1 or 2%; 105kb).
<i>un-23</i>	Between <i>irp-2</i> (5%; 27%) and <i>col-18</i> (3/28), <i>T(OY320)</i> , <i>T(UK14-1)</i> , <i>ws-1</i> .
<i>un-25</i>	Between <i>cpl-1</i> (4%) and <i>ylo-1</i> (0/86).
<i>vvd</i>	Between <i>T(IBJ5)⁺</i> , <i>ylo-1</i> and <i>T(IBJ5)⁺</i> , <i>cpc-1</i> .
<i>ws-1</i>	Between <i>irp-2</i> (38%), <i>un-23</i> , <i>T(OY320)</i> , <i>T(UK14-1)</i> and <i>Tip-VTR</i> .
<i>ws-2</i>	Linked to <i>ylo-1</i> (16%), <i>irp-2</i> (2%).
<i>ylo-1</i>	Between <i>cys-1</i> (8%), <i>T(IBJ5)⁺</i> and <i>un-13</i> (2%; 38kb), <i>cpc-1</i> (1%; 3%; 143kb).



LOCUS LINKAGE GROUP VII

<i>ace-8</i>	Between <i>thi-3</i> (1%) and <i>TTS4M50</i> and <i>qa</i> cluster (2 or 3%).	<i>kym-1</i>	Linked to <i>nic-3</i> (30%), <i>wc-1</i> (20%)
<i>acu-9</i>	Linked to <i>nic-3</i> (29%).	<i>lacc</i>	Between <i>nic-3</i> (14%) and <i>thi-3</i> (7%)
<i>acu-11</i>	Linked to <i>arg-10</i> (21%).	<i>le-2</i>	Linked to <i>mei-7</i> (7%)
<i>adh</i>	Linked to <i>do</i> (0/53), <i>spco-4</i> (4%), Between <i>cyr-7</i> (9%) and <i>nic-3</i> (4%, 11%).	<i>mak-2</i>	By cosmid assignment to chromosomal DNA. Tentative.
<i>aga</i>	Between <i>wc-1</i> (2%) and <i>arg-10</i> (24%, 27%).	<i>mb-1</i>	Linked to <i>nic-3</i> , <i>wc-1</i> (23%)
<i>aln-1</i>	Linked in VII.	<i>mel-1</i>	Left of <i>thi-3</i> (27%)
<i>arg-10</i>	Between <i>TTS4M50</i> , <i>arg-11</i> (1 or 2%) and <i>ni</i> (1%, 12%).	<i>met-7</i>	Between <i>Cen-III</i> (<1%) and <i>mei-9</i> (10 ⁻⁴), <i>wc-1</i> .
<i>arg-11</i>	Between <i>TTS4M50</i> and <i>arg-10</i> (1 or 2%).	<i>met-9</i>	Between <i>mei-7</i> (10 ⁻⁴) and <i>wc-1</i> (1 or 2%).
<i>ars-1</i>	Between <i>thi-3</i> (2%, 5%) and <i>qa</i> , <i>Cen-III</i> , <i>mei-7</i> (1%).	<i>mgk-1</i>	By cosmid assignment to chromosomal DNA. Tentative.
<i>asd-2</i>	Linked to <i>nic-3</i> (15%), <i>ars-1</i> (36%).	<i>mo-2</i>	Linked to <i>for</i> (16%), <i>ni</i> (29%)
<i>bn</i>	Linked to <i>mei-7</i> (0/93), <i>wc-1</i> (1%), Right of <i>TTS4M50</i> , <i>thi-3</i> (2%).	<i>msh-2</i>	Linked to <i>for</i> , <i>frq</i> (0/18 asc) Right of <i>Cen-III</i> (1/18 asc)
<i>car-2</i>	Linked to <i>for</i> , <i>frq</i> (8 to 10 T, ONPD/18 asc), <i>cox-8</i> (4 to 6 T, 1 NPD/18 asc)	<i>mis-10</i>	Right of <i>mei-7</i> (7%)
<i>cag-9</i>	Linked to <i>nic-3</i> (2/18 asc)	<i>mis-25</i>	Between <i>mei-7</i> (4%, 6%) and <i>un-10</i> (8%)
<i>cdi-2</i>	Between <i>nic-3</i> and <i>mei-7</i> .	<i>mis-33</i>	Between <i>mei-7</i> (10%) and <i>un-10</i> (8%)
<i>Cen-III</i>	Between <i>ars-1</i> , <i>qa</i> cluster and <i>mei-7</i> (1%).	<i>mis-35</i>	Right of <i>nic-3</i> (<9%)
<i>cfp</i>	Between <i>for</i> (1 or 2/18 asc) and <i>TTS4M50</i> . Near <i>ras-3</i> , <i>un-10</i> .	<i>nic-3</i>	Between <i>do</i> (3%), <i>spco-4</i> (1%) and <i>lacc</i> (14%), <i>thi-3</i> (9%, 27%)
<i>col-2</i>	Linked to <i>mei-7</i> (1%), probably to the left. Right of <i>TTS4M50</i> .	<i>nop-1</i>	<i>csp-2</i> (16%, 22%)
<i>col-17</i>	Linked to <i>ni</i> (14%), <i>spco-5</i> (6%).	<i>ni</i>	Linked to <i>nic-3</i> (3/18 asc), <i>ars-1</i> (2/18 asc)
<i>cox-8</i>	Linked to <i>un-10</i> (3/17), <i>lacc</i> (4/18).	<i>oli</i>	Between <i>arg-10</i> (2%, 12%) and <i>sk</i> (7%, 18%)
<i>cpc-2</i>	Linked to <i>arg-10</i> (18%), Right of <i>TTS4M50</i> .	<i>pen-1</i>	Between <i>for</i> , <i>frq</i> (<2%) and <i>un-10</i>
<i>csp-2</i>	Linked to <i>thi-3</i> (<1%), probably to the right. Left of <i>TTS4M50</i> , <i>ace-8</i> .	<i>pep-4</i>	Linked to <i>csp-2</i> (4%)
<i>cya-8</i>	Between <i>Tip-MIL</i> and <i>T(ALS179)</i> (5%), <i>cyr-7</i> (7%).	<i>pfa-1</i>	Linked to <i>for</i> , <i>frq</i> (0/18 asc)
<i>cyr-6</i>	Linked to <i>wc-1</i> (2%).	<i>pfa-4</i>	Linked to <i>csp-2</i> (35%)
<i>cyr-7</i>	Between <i>T(ALS179)</i> and <i>adh</i> (9%), <i>nic-3</i> (18%)	<i>pho-4</i>	Linked to <i>csp-2</i> (33%)
<i>dim-2</i>	Between <i>wc-1</i> and <i>un-10</i> , <i>arg-10</i> .	<i>poi-2</i>	Linked to <i>nic-3</i> (2%, 6%; 1 or 2 T/18 asc)
<i>do</i>	Linked to <i>spco-4</i> (<1%), Left of <i>nic-3</i> (1%, 3%).	<i>qa cluster</i>	Between <i>car-2</i> (0 or 1 T/18 asc) and <i>cox-8</i> (1 T/18 asc)
<i>dr</i>	Between <i>for</i> (3%) and <i>TTS4M50</i> , <i>arg-10</i> (12%)	<i>ras-3</i>	Between <i>ars-1</i> , <i>rRNA^{LSU}</i> and <i>Cen-III</i> , <i>mei-7</i> (<1%).
<i>for</i>	Between <i>wc-1</i> (6%) and <i>frq</i> (2%), <i>oli</i> (5 or 6%), <i>dr</i> (3%).	<i>rol-2</i>	Adjacent to <i>thi-3</i> (300bp). Near <i>un-10</i> .
<i>frq</i>	Between <i>wc-1</i> , <i>for</i> (3%), and <i>oli</i> (<2%), <i>un-10</i> .	<i>sdi-13, -14</i>	Linked to <i>mei-7</i> (<1%), <i>wc-1</i> (3%)
<i>gul-4</i>	Linked to <i>nic-3</i> (17%).	<i>sfo</i>	Linked to <i>ars-1</i> , <i>Cen-III</i> (0/18)
<i>het-4</i>	Between <i>cya-8</i> , <i>T(ALS179)</i> and <i>nic-3</i> (28%)	<i>sk</i>	Between <i>thi-3</i> (6%) and <i>hlp-1</i> (1%, 9%) Linked to <i>Cen-III</i> (<1%)
<i>het-10</i>	Between <i>dr</i> , <i>TTS4M50</i> and <i>Tip-MIL</i> .	<i>sk</i>	Between <i>ni</i> (7%, 17%) and <i>Tip-MIL</i> .
<i>hhl</i>	Linked to <i>cag-9</i> , <i>pho-4</i> .	<i>slo-2</i>	Left of <i>mei-7</i> (2%)
<i>hH2A</i>	Linked to <i>Cen-III</i> (1 T/18 asc)	<i>sor-2</i>	Linked to <i>ni</i> (31%)
<i>hH2B</i>	Linked to <i>Cen-III</i> . Adjoints <i>hH2A</i> .	<i>spco-4</i>	Linked to <i>do</i> (<1%), <i>nic-3</i> (1%)
<i>hlp-1</i>	Between <i>sfo</i> (1%, 9%) and <i>ni</i> (28%, 37%).	<i>spco-5</i>	Linked to <i>col-17</i> (6%), <i>ni</i> (20%)
<i>hlp-2</i>	Between <i>hlp-1</i> (8%, 25%) and <i>ni</i> (29%)	<i>spco-6</i>	Right of <i>thi-3</i> (4%). Linked to <i>spco-5</i> (8%), <i>ni</i> (20%)
<i>lle-1</i>	Between <i>ars</i> (1%) and <i>wc-1</i> (3%)		

LOCUS LINKAGE GROUP VII (continued)

<i>ssu-1</i>	Between <i>met-7</i> (14%) and <i>su(trp-3^{Δ20})-1</i> (10%), <i>ni</i> (23%).
<i>ssu-4</i>	Between <i>nic-3</i> (28%) and <i>met-7</i> (20%).
<i>su(met-1)-5</i>	Left of <i>nic-3</i> (23%).
<i>su(trp-3^{Δ20})-1</i>	Between <i>met-7</i> (18%), <i>ssu-1</i> (10%), 13% and <i>arg-10</i> (7%).
<i>su(trp-3^{Δ20})-2</i>	Linked to <i>su(trp-3^{Δ20})-1</i> , probably to the left.
<i>T(T54M50)</i>	Between <i>thi-3</i> , <i>csp-2</i> and <i>ace-8</i> .
<i>T(Z88)</i>	Between <i>dr</i> and <i>arg-10</i> .
<i>T(ALS179)</i>	Between <i>cya-8</i> and <i>arg-10</i> .
<i>T(S936)</i>	Between <i>dr</i> and <i>arg-10</i> .
<i>Tel-VIII</i>	Linked to <i>nic-3</i> , <i>pho-4</i> (10T, 1NPD/18 asci).
<i>thi-3</i>	Linked to <i>csp-2</i> (<1%). Between <i>nic-3</i> (9%, 28%), <i>lacc</i> (7%) and <i>T(T54M50)</i> , <i>ace-8</i> (1%).
<i>thi-6</i>	Adjacent to <i>ras-3</i> (300 bp). Near <i>un-10</i> .
<i>Tip-VII</i>	Left of <i>cya-8</i> .
<i>Tip-VIII</i>	Right of <i>sk</i> .
<i>tnr</i>	Between <i>nic-3</i> (3T/18 asci) and <i>ars-1</i> (2T/18 asci), <i>Cen-III</i> (3T/18 asci).
<i>tns</i>	Between <i>T(S936)</i> and <i>arg-10</i> .
<i>IRN450</i>	Between <i>ars-1</i> and <i>qa-1</i> cluster.
<i>ud-1</i>	Between <i>met-7</i> (27%) and <i>arg-10</i> (10%).
<i>un-10</i>	Between <i>for</i> , <i>frq</i> , <i>olt</i> and <i>arg-10</i> .
<i>un-22</i>	Linked to <i>met-7</i> (1%).
<i>wc-1</i>	Between <i>met-9</i> (1%, 4%) and <i>for</i> (6%).