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The *Saccharomyces* Genome Database (SGD; [www.yeastgenome.org](http://www.yeastgenome.org)) is a model organism database with a goal of painting a complete picture of eukaryotic cellular processes by curating a comprehensive and diverse collection of data types for the budding yeast *Saccharomyces cerevisiae*. In addition to other data, we also have been capturing single mutant phenotypes as well as importing genetic and physical protein-protein interactions from BioGRID ([thebiogrid.org](http://thebiogrid.org)) to help shed light on the role proteins play in cellular processes. While we have been collecting mutant types since we started annotating mutant phenotypes, we more recently decided to capture mutant alleles broadly and systematically. Users can now search for and find alleles associated with their genes of interest. In addition, pages dedicated to single alleles are now available and include information on allele type, molecular details of the mutation, alias names and associated references, along with all phenotype and interaction annotations where specific alleles were used. Alleles that share phenotype and/or genetic interaction annotations are graphical represented in the 'Shared Alleles' section. Users will be able explore more fully previously unlinked data types using our new allele curation model to gain additional insight into cellular processes and pathways. This work is supported by a grant from the NHGRI (U41 HG001315).

## Alleles to References

Reference: **Costanzo M, et al. (2016)** A global genetic interaction network for a wiring diagram of cellular function. *Science* 353(6306)

**Abstract**

We generated a global genetic interaction network for *Saccharomyces cerevisiae*, constructing more than 23 million mutants, identifying about 550,000 negative and about 350,000 positive genetic interactions. This comprehensive network maps genetic interactions for essential gene pairs, highlighting essential genes as densely connected hubs. Genetic profiles enabled assembly of a hierarchical model of cell function, including modules corresponding to protein complex pathways, biological processes, and cellular compartments. Negative interactions connected functionally related genes, and identified pleiotropic genes, whereas positive interactions often mapped general regulatory genes among gene pairs, rather than shared functionality. The global network illustrates how coherent sets of genetic interactions connect protein complex and pathway modules to map a functional wiring diagram of the cell.

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act1-1229 | act1-1230 | act1-1231 | act1-1232 | act1-1233 | act1-1234 | act1-1235 | act1-1236 | act1-1237 | act1-1238 | act1-1239 | act1-1240 | act1-1241 | act1-1242 | act1-1243 | act1-1244 | act1-1245 | act1-1246 | act1-1247 | act1-1248 | act1-1249 | act1-1250 | act1-1251 | act1-1252 | act1-1253 | act1-1254 | act1-1255 | act1-1256 | act1-1257 | act1-1258 | act1-1259 | act1-1260 | act1-1261 | act1-1262 | act1-1263 | act1-1264 | act1-1265 | act1-1266 | act1-1267 | act1-1268 | act1-1269 | act1-1270 | act1-1271 | act1-1272 | act1-1273 | act1-1274 | act1-1275 | act1-1276 | act1-1277 | act1-1278 | act1-1279 | act1-1280 | act1-1281 | act1-1282 | act1-1283 | act1-1284 | act1-1285 | act1-1286 | act1-1287 | act1-1288 | act1-1289 | act1-1290 | act1-1291 | act1-1292 | act1-1293 | act1-1294 | act1-1295 | act1-1296 | act1-1297 | act1-1298 | act1-1299 | act1-1300 | act1-1301 | act1-1302 | act1-1303 | act1-1304 | act1-1305 | act1-1306 | act1-1307 | act1-1308 | act1-1309 | act1-1310 | act1-1311 | act1-1312 | act1-1313 | act1-1314 | act1-1315 | act1-1316 | act1-1317 | act1-1318 | act1-1319 | act1-1320 | act1-1321 | act1-1322 | act1-1323 | act1-1324 | act1-1325 | act1-1326 | act1-1327 | act1-1328 | act1-1329 | act1-1330 | act1-1331 | act1-1332 | act1-1333 | act1-1334 | act1-1335 | act1-1336 | act1-1337 | act1-1338 | act1-1339 | act1-1340 | act1-1341 | act1-1342 | act1-1343 | act1-1344 | act1-1345 | act1-1346 | act1-1347 | act1-1348 | act1-1349 | act1-1350 | act1-1351 | act1-1352 | act1-1353 | act1-1354 | act1-1355 | act1-1356 | act1-1357 | act1-1358 | act1-1359 | act1-1360 | act1-1361 | act1-1362 | act1-1363 | act1-1364 | act1-1365 | act1-1366 | act1-1367 | act1-1368 | act1-1369 | act1-1370 | act1-1371 | act1-1372 | act1-1373 | act1-1374 | act1-1375 | act1-1376 | act1-1377 | act1-1378 | act1-1379 | act1-1380 | act1-1381 | act1-1382 | act1-1383 | act1-1384 | act1-1385 | act1-1386 | act1-1387 | act1-1388 | act1-1389 | act1-1390 | act1-1391 | act1-1392 | act1-1393 | act1-1394 | act1-1395 | act1-1396 | act1-1397 | act1-1398 | act1-1399 | act1-1400 | act1-1401 | act1-1402 | act1-1403 | act1-1404 | act1-1405 | act1-1406 | act1-1407 | act1-1408 | act1-1409 | act1-1410 | act1-1411 | act1-1412 | act1-1413 | act1-1414 | act1-1415 | act1-1416 | act1-1417 | act1-1418 | act1-1419 | act1-1420 | act1-1421 | act1-1422 | act1-1423 | act1-1424 | act1-1425 | act1-1426 | act1-1427 | act1-1428 | act1-1429 | act1-1430 | act1-1431 | act1-1432 | act1-1433 | act1-1434 | act1-1435 | act1-1436 | act1-1437 | act1-1438 | act1-1439 | act1-1440 | act1-1441 | act1-1442 | act1-1443 | act1-1444 | act1-1445 | act1-1446 | act1-1447 | act1-1448 | act1-1449 | act1-1450 | act1-1451 | act1-1452 | act1-1453 | act1-1454 | act1-1455 | act1-1456 | act1-1457 | act1-1458 | act1-1459 | act1-1460 | act1-1461 | act1-1462 | act1-1463 | act1-1464 | act1-1465 | act1-1466 | act1-1467 | act1-1468 | act1-1469 | act1-1470 | act1-1471 | act1-1472 | act1-1473 | act1-1474 | act1-1475 | act1-1476 | act1-1477 | act1-1478 | act1-1479 | act1-1480 | act1-1481 | act1-1482 | act1-1483 | act1-1484 | act1-1485 | act1-1486 | act1-1487 | act1-1488 | act1-1489 | act1-1490 | act1-1491 | act1-1492 | act1-1493 | act1-1494 | act1-1495 | act1-1496 | act1-1497 | act1-1498 | act1-1499 | act1-1500 | act1-1501 | act1-1502 | act1-1503 | act1-1504 | act1-1505 | act1-1506 | act1-1507 | act1-1508 | act1-1509 | act1-1510 | act1-1511 | act1-1512 | act1-1513 | act1-1514 | act1-1515 | act1-1516 | act1-1517 | act1-1518 | act1-1519 | act1-1520 | act1-1521 | act1-1522 | act1-1523 | act1-1524 | act1-1525 | act1-1526 | act1-1527 | act1-1528 | act1-1529 | act1-1530 | act1-1531 | act1-1532 | act1-1533 | act1-1534 | act1-1535 | act1-1536 | act1-1537 | act1-1538 | act1-1539 | act1-1540 | act1-1541 | act1-1542 | act1-1543 | act1-1544 | act1-1545 | act1-1546 | act1-1547 | act1-1548 | act1-1549 | act1-1550 | act1-1551 | act1-1552 | act1-1553 | act1-1554 | act1-1555 | act1-1556 | act1-1557 | act1-1558 | act1-1559 | act1-1560 | act1-1561 | act1-1562 | act1-1563 | act1-1564 | act1-1565 | act1-1566 | act1-1567 | act1-1568 | act1-1569 | act1-1570 | act1-1571 | act1-1572 | act1-1573 | act1-1574 | act1-1575 | act1-1576 | act1-1577 | act1-1578 | act1-1579 | act1-1580 | act1-1581 | act1-1582 | act1-1583 | act1-1584 | act1-1585 | act1-1586 | act1-1587 | act1-1588 | act1-1589 | act1-1590 | act1-1591 | act1-1592 | act1-1593 | act1-1594 | act1-1595 | act1-1596 | act1-1597 | act1-1598 | act1-1599 | act1-1600 | act1-1601 | act1-1602 | act1-1603 | act