

## Appendix 1: Description of the Determination of Arbitrary Parameters

1. How was the cutoff value for the significant coefficient value ( $a_{ii} / \sum_j a_{ij}$ ) determined?

The cutoff values were scanned in the range as shown ( $k = 4$ ). For each case, there was a broad range of the cutoff value that did not change the number of links (79 for Fig. 2 *B* and *C*, 52 for Fig. 2*D*). The cutoff value of 0.001 was chosen because this value was in the stable range.

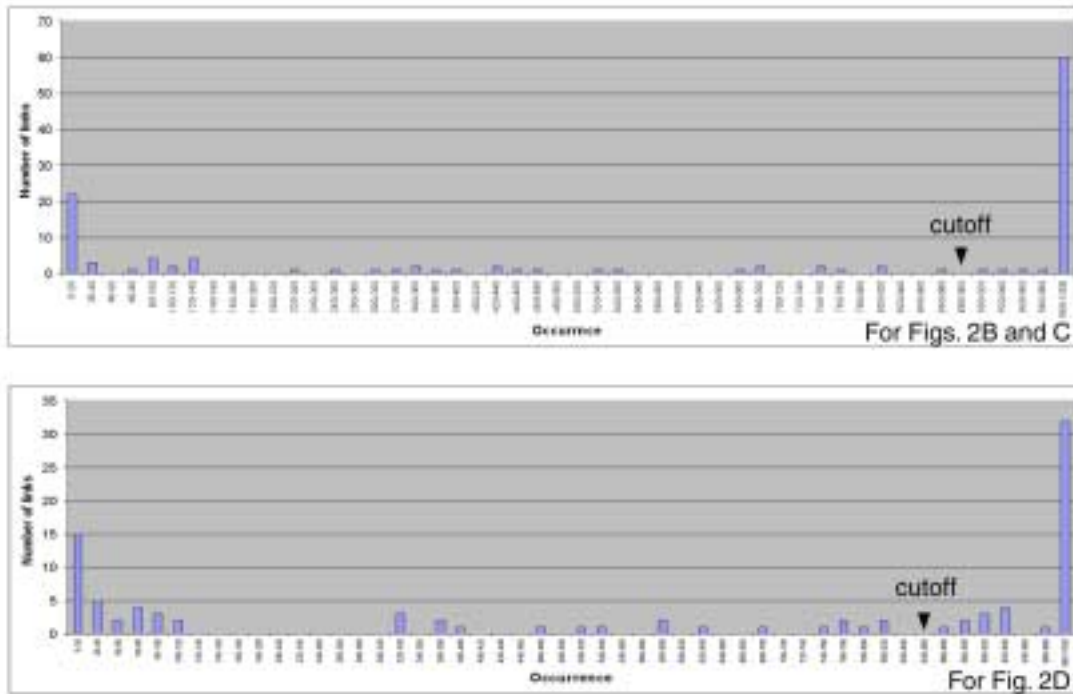
For Fig. 2 *B* and *C*

Cutoff	Number of links
0	104
0.0001	79
0.00033	79
0.001	79
0.0033	79
0.01	79
0.033	76
0.1	68
0.33	33

For Fig. 2*D*

Cutoff	Number of links
0	66
0.0001	52
0.00033	52
0.001	52
0.0033	52
0.01	50
0.033	47
0.1	40
0.33	21

2. How was the cutoff value for bootstrap analysis decided?



Histogram of the number of links for certain ranges of the occurrence during 1,000 bootstrapped trials. (*Upper*) Data used in Fig. 2 B and C; (*Lower*) data used in Fig. 2D. On the basis of the distribution, the cutoff point was decided as shown for each case.  $K = 4, a_{ii} / \sum_j a_{ij} \geq 0.001$