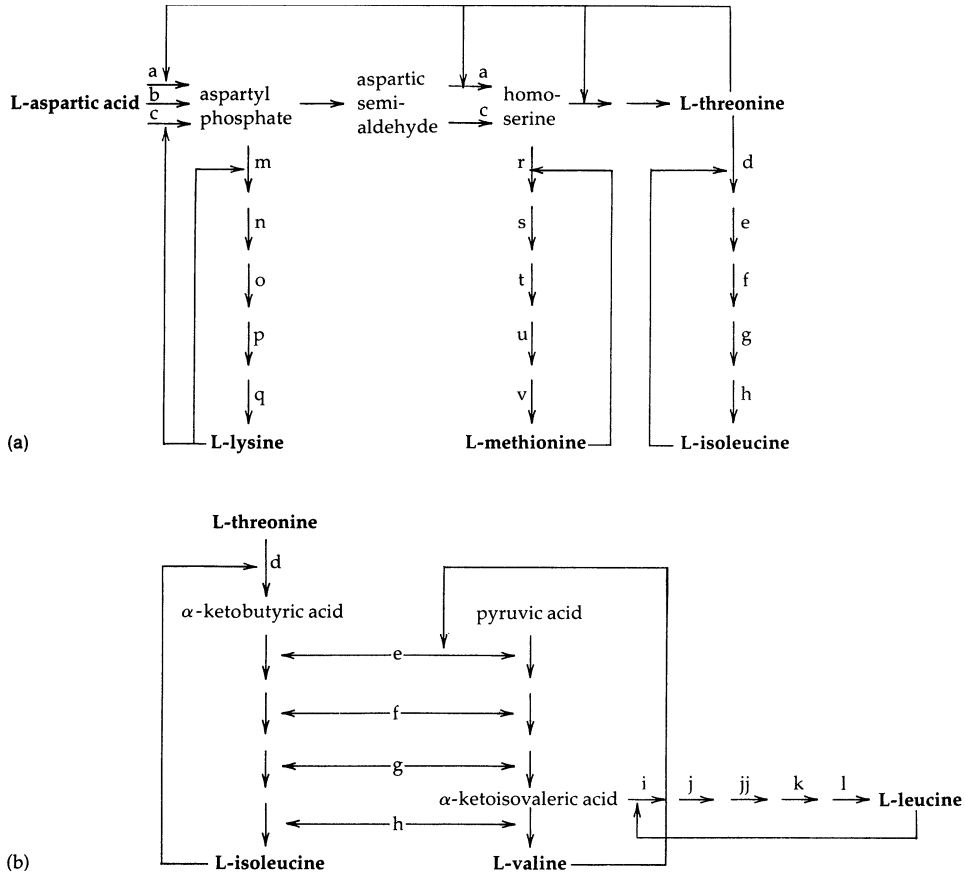


**Figure 4A.1** A simplified diagram of the aspartate pathway in *E. coli*. Each solid arrow designates a reaction catalyzed by one enzyme. The biosynthetic products of the pathway (in boldface) are all allosteric inhibitors of one or more reactions. Careful study of this diagram reveals that with a single exception (the inhibition exerted by valine) the inhibition imposed by one amino acid does not cause starvation for a different amino acid. Part (a) shows the regulatory interrelationships of the L-lysine, L-methionine, and L-isoleucine branches of the pathway. Part (b) shows the regulatory interrelationships of the L-isoleucine, L-valine, and L-leucine branches

**TABLE 4A.1** Control of the First Step of the Aspartate Pathway, Mediated by Three Different Aspartokinases, in the Bacterium *Escherichia coli*

| Enzyme | Corepressor | Allosteric inhibitor |
|---|---|---|
| Aspartokinase I | Threonine and isoleucine | Threonine |
| Aspartokinase II | Methionine | No allosteric control |
| Aspartokinase III | Lysine | Lysine |