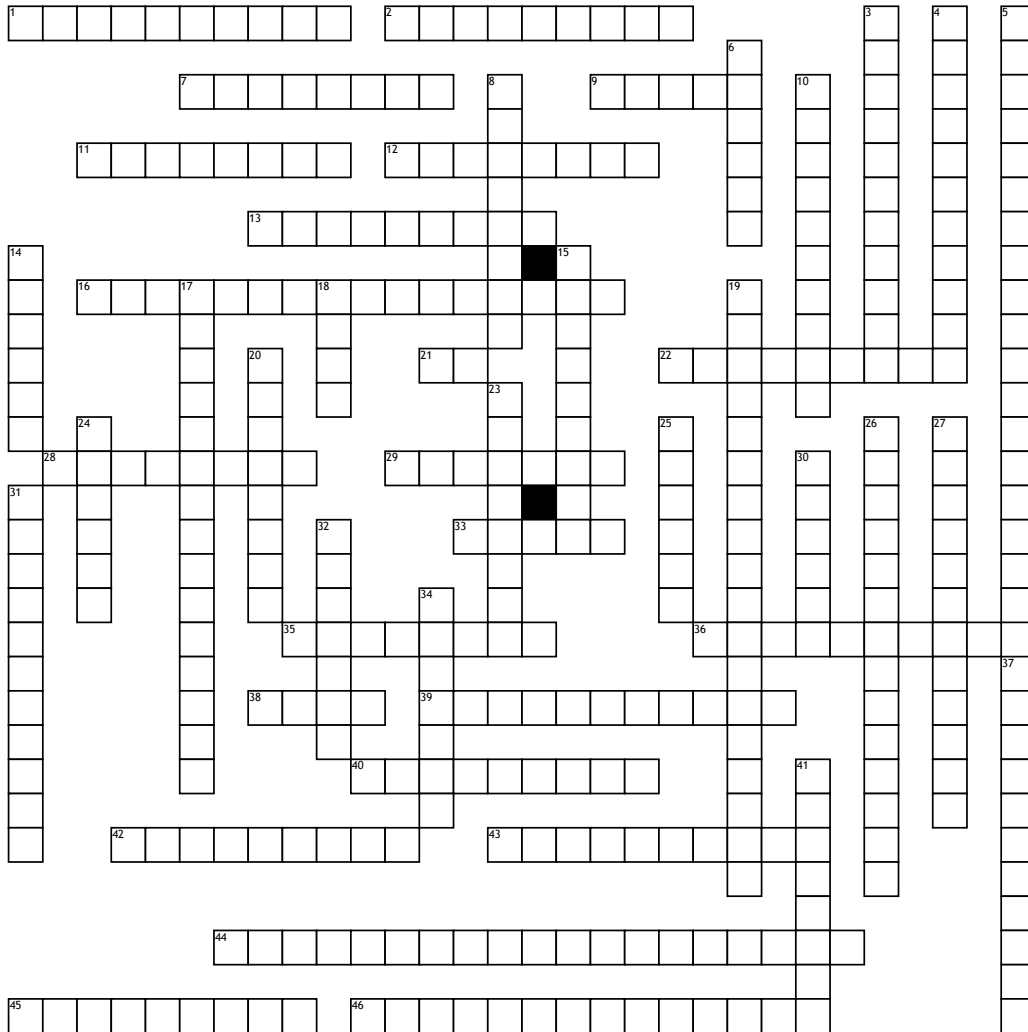


# Escherichia coli Crossword Puzzle



**Across**

1. It depends on the elements of carbon, nitrogen and \_\_\_\_\_ for survival and growth in the environment
2. The six well-studied intestinal pathotypes strains are classified by \_\_\_\_\_ property
7. Biofilms protect the \_\_\_\_\_ from hostile environmental conditions
9. Some kinds of E. coli produce \_\_\_\_\_ toxin which causes diarrhea and vomiting
11. This bacteria utilized their \_\_\_\_\_ and gene regulation to adapt to the desiccation and rehydration cycles
12. Genes encoding antibiotic resistance are frequently associated with \_\_\_\_\_
13. \_\_\_\_\_ illnesses are a severe public health problem and a major cause of morbidity and mortality in infants and young children by E. coli.
16. The term \_\_\_\_\_ was first used in 1995 by Neter to describe a number of E. coli strains responsible for a series of outbreaks of infantile diarrhea
21. Environmental \_\_\_\_\_ can also influence the survival and growth of this bacteria
22. The availability of \_\_\_\_\_ such as nitrogen, carbon and phosphorus are an important factor influencing E. coli survival and growth.
28. Escherichia coli strains vary in other phenotypic characteristics, such as ability to form \_\_\_\_\_
29. Predominant facultative \_\_\_\_\_ bacterium
33. The bacterium mainly inhabits the \_\_\_\_\_ part of the intestinal tract
35. E. coli has been traditionally serotyped based on \_\_\_\_\_ (K) antigen
36. Form of this bacteria \_\_\_\_\_

38. To resist low pH, these bacteria use the mechanism of decarboxylase/antiporter-dependent \_\_\_\_\_ resistance systems
  39. They are abundantly present where there is high moisture, moderate pH and \_\_\_\_\_
  40. The pathotypes of these bacteria represents a group of clones that share specific \_\_\_\_\_ factors.
  42. \_\_\_\_\_ and pathogenic E. coli strains display diverse phenotypic and genotypic variants.
  43. Whole-genome \_\_\_\_\_ provides a great amount of useful information on the genome of pathogenic E. coli
  44. Class that the bacteria belongs to \_\_\_\_\_
  45. E. coli has been traditionally serotyped based on \_\_\_\_\_ (H) antigen
  46. \_\_\_\_\_ transfer plays an important role in the acquisition of new genes in E. coli
- Down**
3. The direct transfer of DNA from a donor to a recipient
  4. E. Coli has led to resistance against \_\_\_\_\_ consumed by its host
  5. Family that this bacteria belongs to \_\_\_\_\_
  6. It is often discharged into the environment through what metabolic activity?
  8. This bacteria is responsible for many human \_\_\_\_\_
  10. This bacteria includes commensal and \_\_\_\_\_ strains
  14. This bacteria is also characterized by the utilization of \_\_\_\_\_ sources

15. The \_\_\_\_\_ biosynthesis pathway has served as a paradigm for understanding a number of key processes in E. coli
17. E. coli strains that can cause extraintestinal diseases are called \_\_\_\_\_
18. E. coli strains are \_\_\_\_\_ resistant because they need to pass through the low-pH environment in the human stomach
19. Which type of E. coli is one type of STEC that can cause severe enteric diseases
20. It can degrade various kinds of carbon substrates, including \_\_\_\_\_ compounds
23. The bacteria can be predated by \_\_\_\_\_
24. Amyloid curli \_\_\_\_\_ are a mediating factor in the attachment stage of biofilm formation
25. The repair of dsDNA end in E. coli starts by the action of \_\_\_\_\_
26. \_\_\_\_\_ can directly cause DNA damage and oxidation of cellular contents
27. E. coli strains can be also classified into several \_\_\_\_\_ groups such as: A, B1, B2 and D
30. \_\_\_\_\_ lyse the bacteria
31. \_\_\_\_\_ is one of the common stresses to bacteria in natural environments
32. E. coli has been traditionally serotyped based on \_\_\_\_\_ (O) antigen
34. Bacterial \_\_\_\_\_ method used to detect Shiga toxin-producing strain
37. \_\_\_\_\_ can cause an anoxic environment around the cells
41. Gram classification \_\_\_\_\_

**Word Bank**

- |                  |                 |                     |                    |                 |            |
|------------------|-----------------|---------------------|--------------------|-----------------|------------|
| pH               | acid            | nutrients           | protozoa           | plasmids        | Diarrheal  |
| antibiotics      | membrane        | Biofilms            | virulence          | temperature     | fibers     |
| enteropathogenic | solar radiation | Enterobacteriaceae  | Enterohaemorrhagic | virulence       | acid       |
| RecBCD           | lower           | Gammaproteobacteria | phosphorus         | Horizontal gene | capsular   |
| culture          | flagellar       | somatic             | desiccation        | negative        | pathogenic |
| carbon           | phylogenetic    | bacteria            | rod shaped         | extraintestinal | phages     |
| histidine        | rehydration     | shiga               | sequencing         | aerobic         | faeces     |
| conjugation      | aromatic        | commensal           | diseases           |                 |            |