E COLI

1. Description of the Toxin.

Escherichia coli commonly known as e coli is a Gram-negative rod shaped bacterium that is most instances is found in the lower intestines of the warm-blooded animals or rather the endothermic animal species, Sussman, *154*. Most of the E coli types are harmless but serotype 0157:H7 is able to lead to the critical food poising cases that human being would be subjected to as long as they get into place. The harmless kinds of the bacteria are part of the normal gut system flora and they are beneficial to the host through the capability to produce Vitamin k2.They are also able to bar the founding of the pathogenic bacteria within the intestines which is an advantage from their presence too. The ability of the bacteria to stay for a considerable time outside the intestines facilitates the testing of the fecal matter for its presence in the body. It is a bacterium that can be grown easily and the simplicity of genetic manipulations through Metagenic processes makes it one of the most studies prokaryotic bacteria, which is significant to the disciplines of Microbiology and Biotechnology.

2. Where it can be found

An Escherichia coli bacterium is found in the intestines OF endothermic animal species. It is established as the normal gut floral moldings and it aids with the production of Vitamin k2 as well as the prevention of the harmful bacteria growth. It is tested for in the fecal matter, which is also a likely to be found area.

3. Effects on Cellular Process.

The Enteroaggregative Escherichia coli, which are found in human's does through the usage of its fimbriae, aggregate the tissue culture cells in the human bodies. More to this, they are able to produce Haemolysin and an ST Entrotoxin that kills the cellular processes significantly.

4. Impact on Human Health.

From Goodsell, 124, Escherichia coli are useful in that they aid the production of Vitamin K2 and the prevention of harmful bacteria from growth. Concerning this, it is in one way assisting the health of human beings in greater magnitude. On the other hand, the Serotype 0157:H7 can cause critical food poisoning, which is not good for human health. The bacteria cause diseases such as Gastroenteritis and the Urinary tract infections as well as the Neonatal Meningitis. More to this, the virulent type of bacteria can also cause Mastitis and the Gram-negative pneumonia. Thus, it can as well affect the human health in a negative way.

5. How to avoid the Health risk.

The infections that are related to the bacteria are the health hazards and should be avoided through the consumption of well cooked meat and the usage of the meat thermometer to ensure that they are well cooked and do not relay of the change of color only when cooking meat. It is too advisable to wash hands after one encounters raw meat as well as the usage of different platter when ferrying cooked meat from the grill and not the one used to take them there. Drinking of pasteurized beverages only is positive as well as avoiding the drinking of pool and lake water.

It is advisable too that if someone is served a uncooked hamburger for instance in a restaurant, he or she should send it back to the kitchen and never shy away for a better cooking. In addition, people should avoid the spread of harmful bacteria in the kitchen by the separation of raw and cooked food especially meat. It is also relative to thoroughly wash the utensils with soapy water after they are used to handle meat products. A thorough washing of fruits and their peeling before consumption is essential for the avoidance and mitigation of the health risks.

Bibliography

Carl, Zimmer. *Microcosm: E. Coli and the New Science of Life*.Manchaester: Vintage, 2009.

Evans, Thomas, & Ming-Qun-xu.*Heterologous Gene Expression in E.coli: Methods and Protocols.* Sydney: Humana Press.2010.

Goodsell, David.The *Machinery of Life*. New York. Springer, 2009.

Sussman, Max.Escherichia *Coli: Mechanisms of Virulence*. Cambridge: Cambridge University Press, 1997.

Snyder, Jessica. *Good Germs, Bad Germs: Health and Survival in a Bacterial World*.NJ: Hill and Wang, 2008.