

# L- Asparaginase Production from Kefir: An Alternative for the Treatment of Acute Lymphoblastic Leukemia

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The L-Asparaginase enzyme is largely used in the treatment of the people who have the acute lymphoblastic leukemia (ALL). It transforms the energy source of the cancer cells, the L-Asparagina amino acid, in aspartic acid and ammonia, products than cannot be digested by the cancer cells. Gradually the abnormal cell go dying. On the other hand, the Kefir grain is a microorganism colony that is good for the human healthy by which gets a brew widely consumed and this grain is constituted by fungi and bacteria. The enzyme production is by biotechnological process because this I studied the enzyme production through the Kefir grain. To test the enzyme production though the grain and the brew, I made culture medium to the screening of fungi and of bacteria. The culture medium was compound by the amino acid and an indicator, phenol red. Positive results to the enzyme production are viewed by the color change of the culture medium, that turns to pink because the ammonia liberation that confers the coloration in phenol red presence. I tested the grain of water and milk Kefir, being positive the both to the enzyme production. The water Kefir's brew also conferred a pink coloration, showing the production of the enzyme responsible to the catalysis of the amino acid hydrolyses. The brew filtered of water and milk Kefir also changed the medium colors, being this a test that indicates the potential of the enzyme being excreted into the extracellular medium.

## Awards Won:

Third Award of \$1,000