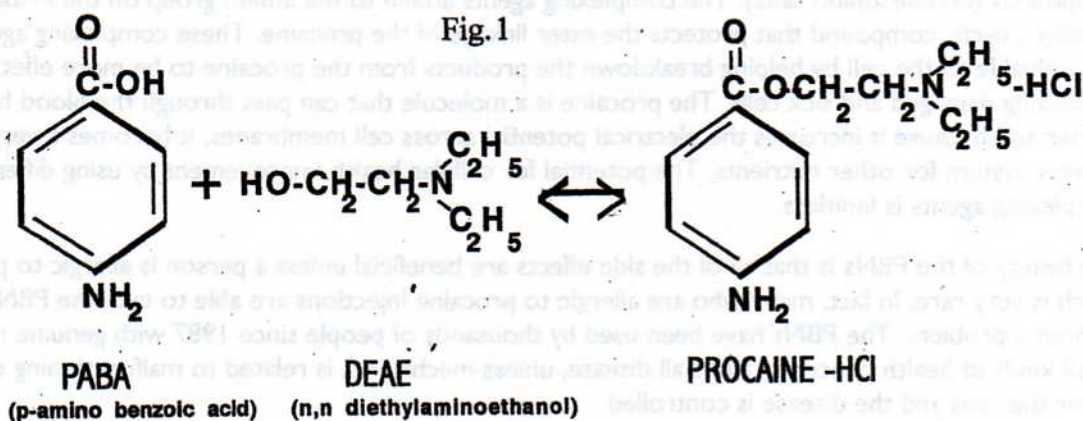


PROCAINE HCL (VITAMIN H3)

Procaine Hydrochloride was first synthesized in 1905 by a German chemist Albert Einhorn. He was looking for a compound that would act as an anesthetic, would be non-toxic, free of side effects, and would not be addictive. Dr. Einhorn was looking for a compound that could replace cocaine as an anesthetic. Cocaine was being used at the time as an anesthetic. However, because cocaine was toxic, addictive, and destructive to the central nervous system, its use was being outlawed. Dr. Einhorn was able to produce a compound that demonstrated the properties he was looking for. This new compound he named **procaine**. "**Pro**" means, in place of, and "**caine**" comes from the word cocaine. Because of the similarity of the names and because they are both anesthetics, there is much confusion as to the nature of procaine. Procaine when injected into the muscles acts as an anesthetic. Procaine HCL solutions, used as anesthetics, are trade named Novocain.

Chemically procaine is the PABA ester of the amino acid alcohol DEAE. PABA (p-amino-benzoic acid), is a "B" vitamin. DEAE, (n,n diethylaminoethanol) is a biologically active precursor of the "B" vitamin choline (Fig. 1). Procaine is usually used in the form of the hydrochloride salt (procaine HCL) because it is highly *water soluble*. Procaine hydrochloride, when taken orally enters the body by being mainly absorbed through the villi in the small intestine. Experiments show that the bulk of the procaine HCL enters the bloodstream molecularly intact. In the blood stream procaine HCL is rapidly hydrolyzed by the enzyme pseudo-cholinesterase into PABA and DEAE the two components of the procaine molecule. These metabolites are removed by the liver, chemically changed, and excreted in the urine. The problem with procaine HCL is the blood enzymes destroy it rapidly; its half life is only 0.6 minutes (36 seconds).

Fig. 1



In the late 1940's Dr. Ana Aslan, a Romanian cardiologist, found that adding a small amount of benzoic acid to the procaine solution stabilized some of the procaine enough to protect it from the blood enzymes. This protected procaine which Dr. Aslan named Gerovital H3 or GH3 was found to be very helpful in supplying PABA and DEAE to damaged and/or diseases cells. Ana Aslan named the procaine vitamin H3. GH3 is listed under H3 in the Merck index 10th edition. The amount of benzoic acid used in the GH3 only protects 15% of the procaine thus wasting the benefits of 85%. Why not increase the benzoic acid? The amount of benzoic acid that can be incorporated into a product is limited by law and benzoic acid is not utilized by the cell for any useful purpose and at higher concentrations could be an allergen.

Dr. R. Koch, DSc. Biochemist and inventor of many chemical processes became familiar with GH3 in 1981 because of the health benefits it provided for his sister who suffered from severe asthma. Upon researching GH3 and procaine HCL, he found over 600 studies that were very positive about the health benefits of GH3. He was excited about the possibilities of procaine to help in solving many different health problems since the research indicated that it helped by regenerating *damaged cell membranes*.

Procaine HCL (*procaine hydrochloride*) is the active ingredient in Gerovital H3 (GH3) and in Cellular Stress Repair™. Procaine HCL is broken down rapidly by enzymes in the blood stream into PABA and DEAE. The PABA and DEAE are rapidly conjugated and removed from the blood and excreted from the body. Because of this procaine HCL and its breakdown products (metabolites) are unable to get into the cells in any great quantity to produce benefits. Procaine HCL will produce some benefits by itself, but they are very limited.

Dr. Koch's research showed that the benzoic acid protected the procaine molecule by deforming the procaine molecule through complexing causing steric hindrance at the ester linkage thus protecting the molecule from the attack by the enzyme. This lengthened the survival time of the procaine benzoate complex to about 6 hours giving the procaine time to enter the *cells*. Since the benzoic acid is of no nutritional value to the cell and is limited to an amount that only protected 15% of the procaine in GH3, why not form complexes with the procaine HCL using compounds that can help the procaine and provide nutritional support to the cell at the same time.

Procaine HCL when combined with biologically active acids such as folic acid, biotin, ascorbic acid, pantothenic acid, citric acid and many other acids such as amino acids, fatty acids etc., acts as a vitamin or food supplement. The vitamin acids and other biologically active acids when complexed with the procaine HCL molecule protect the procaine from the enzymes in the blood allowing the procaine to enter the cells. These vitamin complexes help the cell assimilate and utilize nutrients more efficiently. These complexed procaine compounds were named PBNs (procaine based nutriments).

However, when procaine HCL is complexed properly the procaine HCL is protected from the action of the enzymes in the blood and tissues. This protection gives the procaine enough time to be transferred into the cells of the body where it helps the cells **rebuild, repair, and detoxify**. This action of the procaine HCL complex is responsible for the remarkable improvements in health that result from the use of products containing the PBNs. The procaine when complexed forms a new family of chemical compounds (double amino salts). The complexing agents attach to the amino group on the PABA forming a cyclic compound that protects the ester linkage of the procaine. These complexing agents are very valuable to the cell by helping breakdown the products from the procaine to be more effective in revitalizing damaged and sick cells. The procaine is a molecule that can pass through the blood brain barrier and because it increases the electrical potential across cell membranes, it becomes a very good delivery system for other nutrients. The potential for cellular health improvement by using different complexing agents is limitless.

The beauty of the PBNs is that all of the side effects are beneficial unless a person is allergic to procaine, which is very rare. In fact, many who are allergic to procaine injections are able to take the PBNs orally without a problem. The PBNs have been used by thousands of people since 1987 with genuine results on all kinds of health concerns. Since all disease, unless mechanical, is related to malfunctioning cells, repair the cells and the disease is controlled.

USA Patent Nos. 5,283,258 5,254,686 5,283,068 5,162,344
Australian Patent Nos. 332917, 046241
Canadian Patent Nos. 2,012,021
Reference: Robert Koch, DSc.

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