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# VEPACHEDU EDUCATIONAL FOUNDATION

## The Andhra Journal of Industrial News

### IP and Industry News

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#### Issue 106 Contents:

Expensive Drug  
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#### **Expensive Drug**

Kalydeco is the first medicine to directly affect the genetic defect that causes cystic fibrosis. It will only help 4% of the 70,000 people who suffer from declining lung function, damaged pancreases, and shortened lives due to CF worldwide, but its price is very high: \$294,000 per patient per year. Last year the FDA had an impressive record of drug approvals - 40 new drugs and vaccines. In addition to Kalydeco, the FDA also approved the first flu vaccine made in cells, not chicken eggs (that's a Novartis product) and several important cancer drugs including Onyx's Kyprolis, Medivation's Xtandi, and Roche's Perjeta. Read more at <http://www.forbes.com/sites/matthewherper/2012/12/27/the-most-important-new-drug-of-2012/>

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#### **Halofuginone**

Chang Shan is a Chinese herbal medicine used for thousands of years to treat fevers associated with malaria. The active ingredient of Chang Shan, halofuginone, interferes with the tRNA synthetase enzyme that attaches the amino acid proline to the appropriate tRNA. It does this by blocking the active site of the

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enzyme where both the tRNA and the amino acid come together, with each half of the halofuginone blocking one side or the other. Halofuginone has been in clinical trials for cancer.

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#### **BPA and TBT**

Researchers observed that exposure of human fetal testicles to bisphenol A (BPA) reduces the production of testosterone, and of another testicular hormone that is necessary for the testicles to descend into the sacs in the course of fetal development. A concentration equal to 2 micrograms of BPA per liter of the culture medium was sufficient to produce these effects. This concentration is equal to the average BPA concentration generally found in the blood, urine and amniotic fluid of the population.

Testosterone, produced by the testicles, masculinizes the internal and external genitals which, in the absence of testosterone, develop spontaneously into female genitalia. Testosterone also plays a role in the development of the testicle itself. Consequently, the exposure of pregnant women to BPA may be one of the causes of congenital masculinization defects (of the hypospadias and cryptorchidism types) the frequency of which has doubled overall in the past 40 years.

BPA is a chemical compound that is included in the composition of plastics and resins. It is used, for example, in the manufacture of food containers such as bottles including baby feeding bottles. It is also found in the protective films used inside food and drink cans. Significant levels of BPA have also been found in human blood, urine, amniotic fluid and placentas. Recent studies have shown that this industrial component has harmful effects on reproductive ability, development and the metabolism of laboratory animals. BPA is strongly suspected of having the same effects on humans.

As a precautionary measure, the manufacture and sale of feeding bottles containing BPA have been banned in Europe. The ban will be extended in France to all food containers from July 2015. Read more at <http://scienceblog.com/59263/human-testicle-to-bisphenol-a-stay-away-from-me/#4z2d0ILMcZVqOUGK.99>

Exposing pregnant mice to low doses of the chemical tributyltin (TBT) used in paints, certain plastics and a variety of consumer products can lead to obesity for multiple generations without subsequent exposure, a study has found in online journal *Environmental Health Perspectives*. TBT contaminates particles derived from such products as shower curtains, vinyl flooring, carpet fibers, polyurethane foams, mold-

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resistant paints and other consumer products, where it is used as an antifungal agent. As a result, noteworthy levels of TBT have been reported in house dust, which may be particularly relevant for young children who can spend significant time on floors and carpets. Although TBT is now largely banned for use in marine hull paints, it remains pervasive in the environment, and people can be exposed by ingesting TBT-contaminated seafood. Organotins may also leach into liquids that come into contact with organotin-containing plastic pipes, containers and packaging materials.

<http://www.sciencedaily.com/releases/2013/01/130124163412.htm>

A recent *PLOS ONE* study found "significant increases" in disease and abnormalities in the first and third generations of both male and female descendants of animals exposed to plastics. The first generation, whose mother had been directly exposed during gestation, had increased kidney and prostate diseases. The third generation had pubertal abnormalities, testis disease, ovarian disease and obesity.

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Om! Asatoma Sadgamaya, Tamasoma Jyotirgamaya, Mrityorma Amritamgamaya, Om Shantih, Shantih,  
Shantih!

(Aum! Lead the world from wrong path to the right path, from ignorance to knowledge, from mortality to  
immortality, and peace!)

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