

NCL develops chiral molecules to produce drugs of lesser costs Feb. 21st, 2007

by *Snehlata Shrivastav*

National Chemical Laboratory (NCL), Pune, has initiated a programme on development of chiral molecules (molecules which cannot be superimposed on each other or which are mirror images) which can act as potential drug candidates.

The research is a part of a much bigger programme of drug discovery to enable the Indian pharmaceutical companies produce drugs at much lesser costs. These drugs are called as chiral-based drugs. Initially, the laboratory is trying to develop molecules for cardio-vascular diseases but the research would be expanded for other diseases too. In an exclusive interview to The Hitavada Dr M K Gurjar, Deputy Director and Head, Organic Chemistry Technology, said that NCL was working with many leading pharmaceutical companies in the country for developing new drug molecules. "If we can develop these molecules it will reduce the cost of a drug substantially since each molecule development requires nothing less than a billion dollars which none of the Indian companies can afford to spend on research," Dr Gurjar said. After 2005 when the product patent law came into being Indian companies are under tremendous pressure for developing their own drug molecules. Dr Gurjar said that NCL has laid down a long-term programme to help the pharmaceutical industries like Ranbaxy, Dabur, Glenmark, Lupin, FDC Limited and others in evolving cheaper processes for existing molecules, new drug discovery and developing new chemical entities. If Indian companies can have their own molecules it will be possible for them to develop a drug till the Phase I trial stage after which they can tie up with other multi-national giants to produce the final drug. "We cannot develop all drugs completely in India as none of our companies have the money for it. Neither do we have the 'Good Manufacturing Processes or GMPs' and Good Clinical Practices. NCL is working on an anti-HIV molecule using three processes, a process which will allow the drug molecule to completely bind to the CD4 cells and stop the action of virus, or processes using reverse transcriptase or protease inhibitors. Anti-HIV drugs basically work on the principle of combination of cocktail therapy. But with this new molecule it may be possible to develop a single drug. NCL is also working with Dabur for anti-cancer agents based on a product called as Combrestatin. "We are yet to get a lead on this front but we are working in the right direction," said Dr Gurjar.

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