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Short Communication

Drug Receptor Chromatography as New Drug Design Methodology

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Keywords

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Abstract

Drug Receptor Chromatography is one of affinity Chromatography and new drug design methodology for identifying novel drug compounds from small building fragments into novel drug through affinity to specific receptor.

MATERIALS AND METHODS

This method includes two processes: 1. First process, we put receptor on stationary phase of tiny column or thin layer chromatography and small building blocks or ligand fragments in mobile phase Figure (1) [1-3]. These small molecules will fit into the receptor pocket according to their affinity and will be retained in the column Figure (2). Determine the last eluted ligand fragments which represent pharmacophoric groups then rearrange these fragments to get compounds for example: fragments A B C D we will have compounds (A-B-C-D / A-C-B-D / A-D-C-B / A-B-D-C / B-A-C-D/ B-C-A-D ---------- and so on. 2. Second process, we make competition between these compounds by putting them in mobile phase and passing into the column so compounds will be separated according to their affinity to this receptor so the last one eluted from the column will be the best drug candidate and it is ready for preclinical work Figure (3).

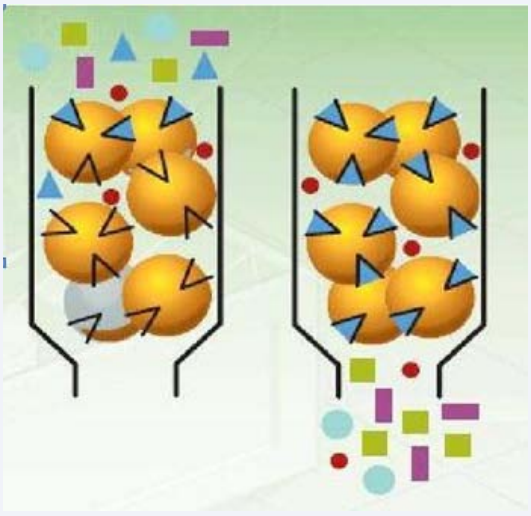

Figure 1 Small building blocks or ligand fragments pass through the column with specific receptor fixed on stationary phase for grabbing pharmacophoric groups of novel drug acting on that receptor.

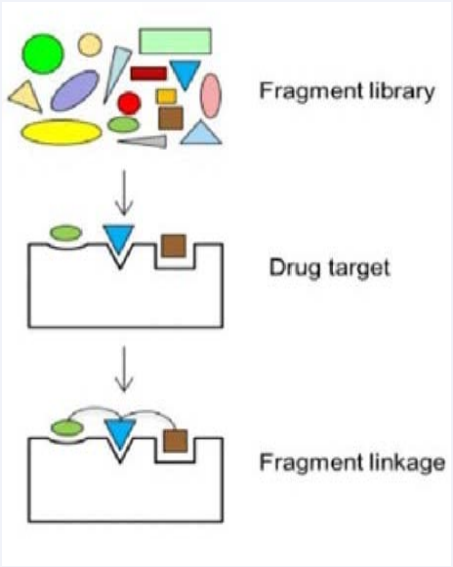

Figure 2 The ligand fragments fit into the receptor pocket according to their affinity and retained in the column.

RESULTS AND DISCUSSION

Drug Receptor Chromatography is one of affinity Chromatography and new drug design methodology for identifying novel drug compounds from small building fragments into novel drug through affinity to specific receptor [4]. The last one eluted from the column will be the best drug candidate and it is ready for preclinical work.

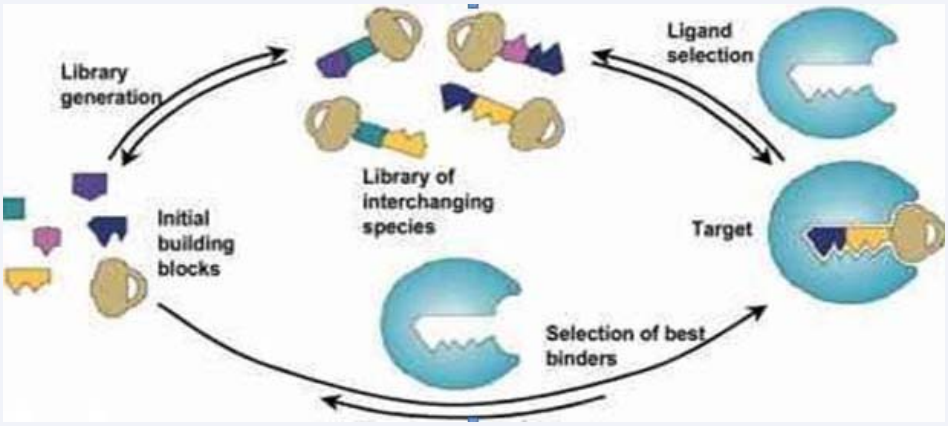

Figure 3 Rearrangement of selected fragments which represent pharmacophoric groups to get drug candidates and making competition between these drug candidates for binding the active site of the receptor to get the best novel drug with stabilized conformational structure.

CONCLUSION

It is a new drug design methodology for identifying novel drug compounds. Saving time and money for designing novel drugs. It can be used in the future for drug targeting.

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