



Quality Control in Drugs

Polarimeters are essential in drug quality control to ensure the enantiomeric purity and therefore efficacy of pharmaceutical drugs.



What's all the fuss about optical rotation?

Pharmaceuticals that are optically active have a molecule that is their mirror image. This molecule can have different pharmacological effects, toxicity, or have no effect at all. The optically active pharmaceutical and its mirror image are referred to as enantiomers. They might possess identical physical properties - however their physiological properties might differ dramatically. Enzymes have an active center which can prefer one substrate's enantiomer over the other, as the induced fit of different enantiomers of the same substrate differs. The physiological effect of the purified D- and L-enantiomers of a β -blocker, for example, differs by a factor of roughly 100 when applied in identical concentrations.

In order to ensure the pharmacological effect of a drug, quality control in drugs includes testing for enantiomers, making polarimeters essential in drug quality control.

Serving the need for optical quality control in pharmaceuticals

By measuring the specific rotation, the MCP polarimeters from Anton Paar can control the enantiomeric purity of optically active pharmaceutical drugs.

They also have built-in Peltier temperature control and measure with high accuracy and repeatability, making them indispensable in the pharmaceutical industry.

To meet the needs of pharmaceutical companies who want to fulfill international Pharmacopoeia requirements, 21 CFR part 11 regulations as well as GMP, FDA and GAMP5 regulations, Anton Paar offers validated software as well as qualification documentation packages (DQ, IQ, OQ and PQ). These state-of-the-art and time-saving solutions save hundreds of hours of working time per instrument for required validation processes.

Good to know

The MCP polarimeter family from Anton Paar is the ideal partner for the pharmaceutical industry and ensures high-quality products.

Other Anton Paar instruments relevant for the application

Anton Paar offers a variety of validated instruments for pharmaceutical drug quality control such as refractometers and density meters.



Do you have any questions?

Contact Anton Paar directly:

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