bio-techne®
TOCRIS

Tocris Quality Difference

	Our Approach What Sets Us Apart	Why It Matters The Value to You
HPLC Analysis	HPLC is our primary tool for purity testing, using custom methods developed by expert Analytical Chemists for each compound.	The gold standard for purity analysis - unlike LCMS on generic methods, NMR or TLC, which are only ever indicative and rarely reliable.
HPLC Method Development	Custom HPLC for every compound, with tailored reporting wavelengths and optimized elution methods.	Bespoke HPLC methods, using varied elution strategies and precisely selected wavelengths, are key to detecting hidden impurities, ensuring accurate purity, and minimizing batch-to-batch variability.
Individual Impurity Limits	Specified limits keep individual impurities under a defined threshold, typically <1%.	Impurities can be biologically active, toxic, or cause off-target effects. Tocris is the supplier of choice for confirmed high-purity products with controlled impurity limits.
Chiral Analysis	Chiral analysis routinely performed to confirm the correct stereoisomer and optical purity.	While some vendors infer chirality from the chemical structure without testing, all relevant Tocris products undergo thorough chiral assessment, with results of chiral analysis reported on the CoA.
Chiral HPLC	We typically confirm absolute stereochemistry and chiral purity via chiral HPLC analysis, always using either a racemic reference or the opposite enantiomer (often synthesized specifically for this purpose).	Altered stereochemistry can dramatically affect biological activity, thalidomide being a well-known example. Properly developed chiral HPLC methods with enantiomer resolution is essential to detect impurities and ensure performance.
Optical Rotation	Applied alongside chiral HPLC, or when appropriate as a standalone test, to verify stereochemistry of products and synthetic starting materials.	Optical rotation confirms stereochemistry and supports chiral purity assessment.
Residual Solvent Analysis	We set stringent residual solvent limits and tests to ensure each product meets these specifications.	Solvents can be toxic to cells, so we test and control residual solvent levels to protect the integrity of customer experiments.
Solubility	We test the solubility of every batch of product.	By testing solubility on every batch of material, we go the extra mile to ensure batch-to-batch consistency, helping customers successfully use our products.
Molecular Formula and Weight	Using experimental techniques such as elemental combustion analysis, we report these data at batch level, including salt stoichiometry & degree of hydration.	Variations in salt stoichiometry or hydration between batches can change the solvent volume needed for correct reconstitution. Without this data, stock solution concentrations may be inconsistent.
Photophysical Properties	We measure photophysical data for each batch of our fluorescent dyes and probes.	Ensuring batch to batch consistency ensures customers receive high performance reagents to support their experiments and analysis.
In-house QC	The overwhelming majority of Tocris products are subject to comprehensive QC performed in-house by experienced Analysts. A select range is sourced and checked from trusted partners.	Rigorous QC by our expert team at Bio-Techne's ISO 9001:2015 accredited Bristol site ensures consistent standards and reliable data. Other suppliers freely rely on unqualified third-party QC data, increasing the risk to product quality.
Functional Testing	We frequently conduct functional testing internally and in collaboration with developer labs. Sometimes this generates new findings that we publish to share with the scientific community.	By taking these extra steps, we ensure that our products perform exactly as advertised for customers.