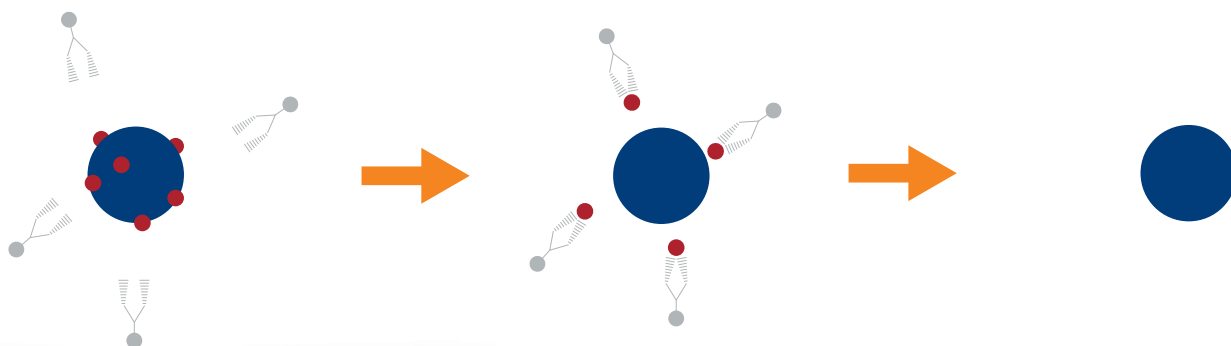


Biotage Metal Scavengers

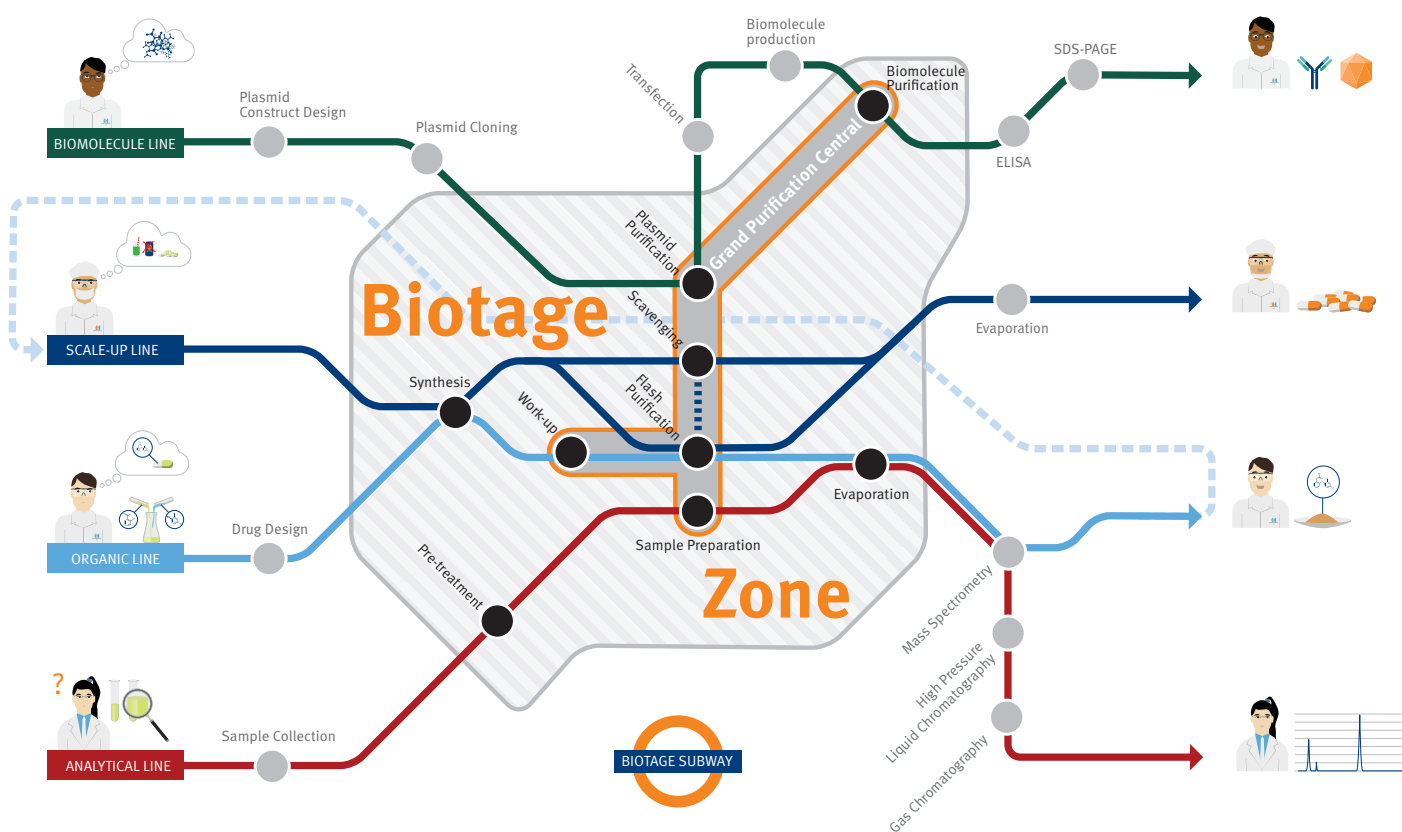


The World of Biotage

Biotage offers workflow solutions and products to customers in drug discovery and development, analytical testing and water and environmental testing.

Scaling Up

When a drug candidate is going to be tested, volumes must be scaled up. This requires larger capacity equipment and scalable solutions. From traditional small molecules to peptides, natural product extraction, or targeted synthesis in the latest high-tech HP-APIs, Biotage scavenging technologies are trusted and underpin efficient processes, from research to cGMP campaigns or commercial production, the world over. Biotage is an established leader in metal scavenging.



Biotage Metal Scavengers

Biotage metal scavengers are clean, simple and effective. They help to reduce metal contamination by selectively removing metals from APIs and other pharma compounds. Their ease of application helps reduce development and scale up production process times, offering quality and security for your, or your client project.

- » Trusted by global pharma for 20 years +
- » Helping you to achieve compliance (ICH Q3D)
- » Remove metals without impacting yield
- » From grams to multi-Kgs, scalable for your process
- » Used in batch reactors or in columns, shorter development times
- » Selective and non-contaminating
- » Large local stock to minimize your project raw material lead times



How to Use - 3 Step Workflow - Simplicity

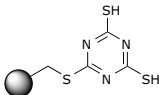
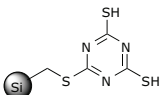
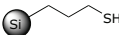

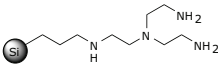


Screening for the Best Scavenger Takes Just 3 Steps

1. Add resin/silica to reaction
2. Stir for desired time
3. Filter as usual to purify
(or use columns for flow applications)

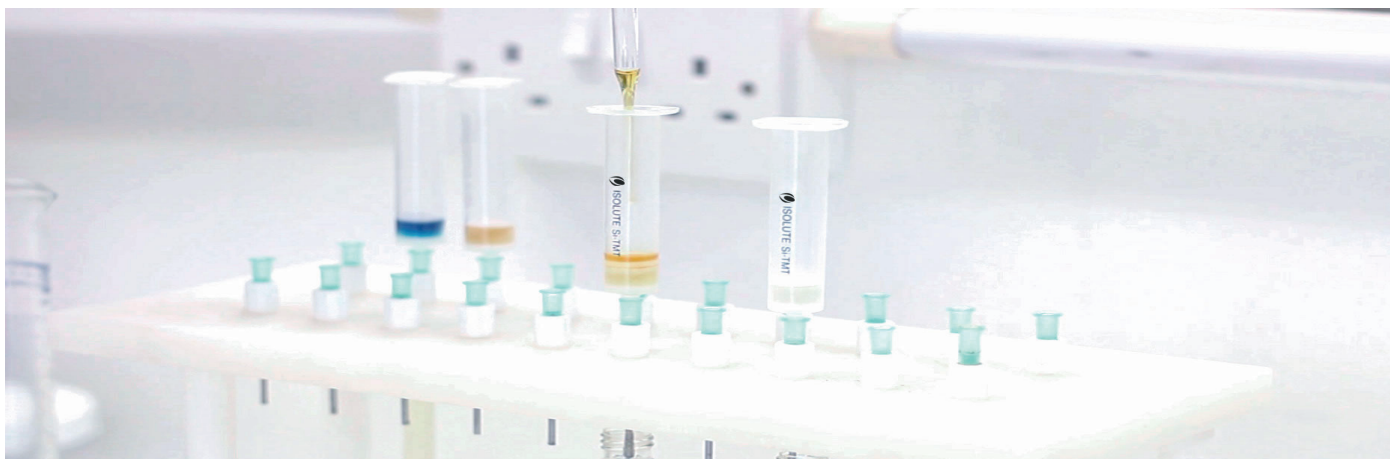
Metal Scavengers Documentation Package

- » Certificate of Analysis
- » Extractables data
- » Chemical loading
- » Lot information
- » Batch identity
- » SDS
- » BSE/TSE statement
- » Guideline SOPs

Scavenger	Biotage® MP-TMT	ISOLUTE® Si-TMT	ISOLUTE® Si-Thiol	ISOLUTE® SCX-2	ISOLUTE® Si-Trisamine
Structure					
Particle size range (µm)	150–355	40–63	40–63	40–63	40–63

Metals scavenged	Transition metals and group 1 or 2 alkali metals including Ag, Cd, Cr, Co, Cu, Fe, Hg, K, Li, Na, Ni, Ni, Pb, Pd, Pt, Rh, Ru, Sn, V, Zr, Z
Typical scavenging conditions	Add 3–5 equiv. relative to Palladium to reaction and stir, RT, 5 minutes – 24 hours. Equilibrate if desired. Pass solution of metal through fixed bed/cartridge with scavenger, one pass or recirculate.
Compatible solvents	Wide choice - no major compatibilities with common organic or aqueous solvents. As usual we would recommend carrying out development work to determine optimum solvent /solvent combination for more challenging applications. Typical examples include (but not limited to): Tetrahydrofuran (THF), Dichloromethane (DCM), Acetonitrile (MeCN), Toluene, Water, Methanol (MeOH), Ethyl Acetate (EtOAc), Dioxane, Dimethylsulfoxide (DMSO), N,N-Dimethylformamide (DMF)
Storage	RT, (Long term, cool (4 °C)), dry location
Shelf-life	Nominally 1–3 years but indefinitely stable when stored in original packaging under closed atmosphere conditions in a cool dark place. We would suggest a 1 year retest date from date of shipping if annual testing is required in your facility.

Initial screening for a candidate metal scavenger only takes a few minutes



1. Crude Pd/mother liquors (1000 ppm Pd) is applied to Si-TMT.



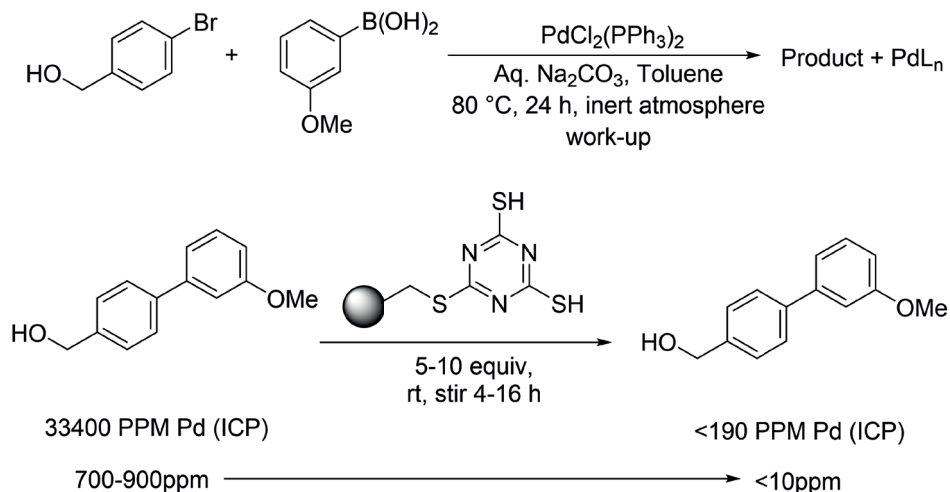
2. Product passes through and palladium is efficiently retained.



3. The clear product extract to the left and the original palladium catalyst to the right.

Powerful Scavenging

Remove palladium by x 100-1000 fold



The Cleanest Scavenger

We analyzed metal scavengers from suppliers. Biotage metal scavengers were consistently demonstrated to be the cleanest available. Other metal scavengers were found to contain class I and class II metals following independent testing.

	As	Cd	Co	Cr	Cu	Hg	Li	Mo	Ni	Sb	Sn	V
MP-TMT	0	0.5	0	2	2.2	0	0	2	2	0	9	0
Si-Thiol	0 (13)*	1.1	0	2	1.5	0 (4)*	0	4	0	0	0	1 (13)*
Si-TMT	0	1.3	0	4	2.4	3	0	1	0	0	0	2
SCX-2	0	0.6	0	2	1.2	3	0	2	0	0	0	0
Si-Trisamine	0	0.7	0	2	1.2	0	0	0	0	0	0	1

* Data from competitive metal scavengers tested under identical conditions.

We have the best Metal Scavengers - Just test us!

Contact us for a test kit and add our reagents to your testing workflow.





Your Complete Partner for Effective Chemistry

Biotage is a worldwide supplier of instruments and accessories designed to facilitate the work of laboratory and process chemists. With our deep knowledge of the industry, academic contacts and in-house R&D teams, we can deliver the best solutions to your challenges. We take great pride in our flexibility and ability to meet our customer's individual needs. With strong foundations in both analytical, organic and process chemistry, we can offer the widest range of solutions available on the market.

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