



What is the Difference Between RSA-Pro and the New RSA-Pro X Surface Treatments - FAQ

Date: 17SEPTEMBER-2021 Last Updated: 27-OCTOBER-2025

Surface Chemistry and Stability

The primary distinction between RSA-Pro™ and RSA-Pro X™ vials lies in the type of surface treatment applied to the RSA™ glass and the resulting hydrolytic stability of each.

- RSA-Pro™ utilizes a vapor-phase deposition process in which silane-based materials are ionically bonded to the glass surface. This treatment imparts hydrophobicity but is not hydrolytically stable. As a result, RSA-Pro™ vials:
 - Are not suitable for autoclaving or freezing
 - May lose their hydrophobic properties over time, especially in aqueous environments
 - Are available only as custom order items
- RSA-Pro X™, by contrast, employs a proprietary surface modification process that covalently bonds hydrophobic materials directly to the RSA™ glass surface. This results in:
 - Exceptional hydrolytic stability, even with prolonged exposure to water
 - Compatibility with autoclaving, freezing, and freeze-thaw cycles
 - Long-term retention of hydrophobicity—stable for years under standard laboratory conditions

Summary of Key Differences

Feature		RSA-Pro™	RSA-Pro X™
Surface Bond Type	Ionic		Covalent
Hydrophobicity	Moderate		High
Hydrolytic Stability	Low		Very High
Autoclave Compatible	No		Yes
Freeze/Thaw Compatible	No		Yes
Availability	Custom Order Only		Standard Product
Long-Term Performance	Degrades in aqueous conditions		Stable for years in aqueous media

Recommendation

For applications involving aqueous solutions, long-term storage, or hydrophobic analytes such as proteins, peptides, and enzymes, RSA-Pro X™ is the preferred choice. Its robust surface chemistry ensures consistent performance and minimal analyte loss over time.



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