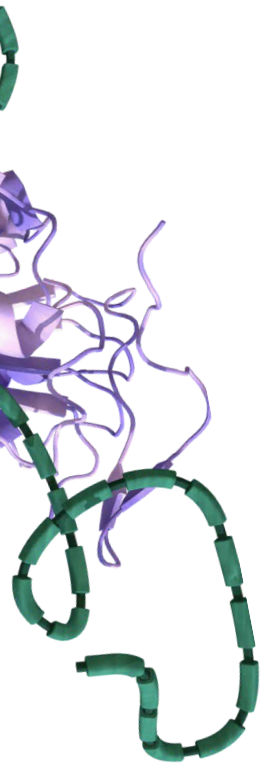
CURAPATH

PSar based solubilizing agent

Our PolySarcosine based solution for biologics improves both Stability and Solubility outperforming current solutions without compromising safety

Available for mAbs, recombinant vaccines, peptides, and hormones.



SCAN ME!

REACH OUT

RESOURCES

SOCIAL MEDIA

CURAPATH

More than a CDMO

The challenge

Limitations of current formulations

Our patented PSar solution

THE CHALLENGE

Protein Aggregation

Active Biologics

Shaking/ Shear Stress

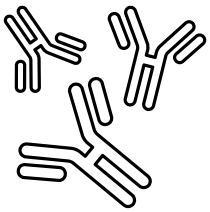
Temperature Fluctuations

Storage/ Hold Times

STORAGE

Biologics are highly sensitive molecules. External factors can lead to aggregation and loss of biological activity.

In-Active Biologics



Associated Problems:

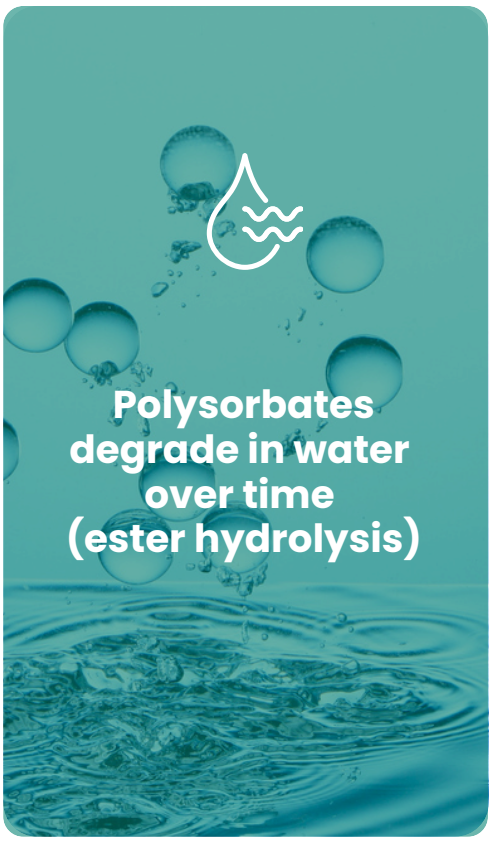
- Inaccurate dose
- Undesired immunogenicity
- Short shelf-life

LIMITATIONS OF CURRENT FORMULATIONS

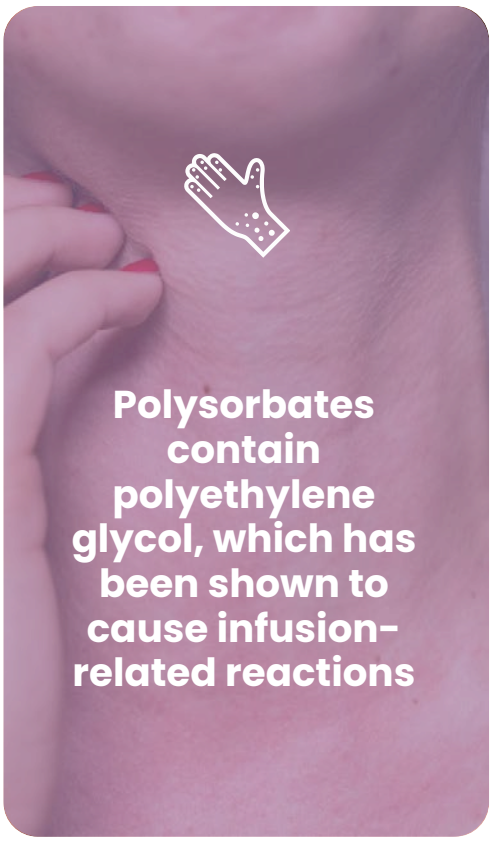
Polysorbates

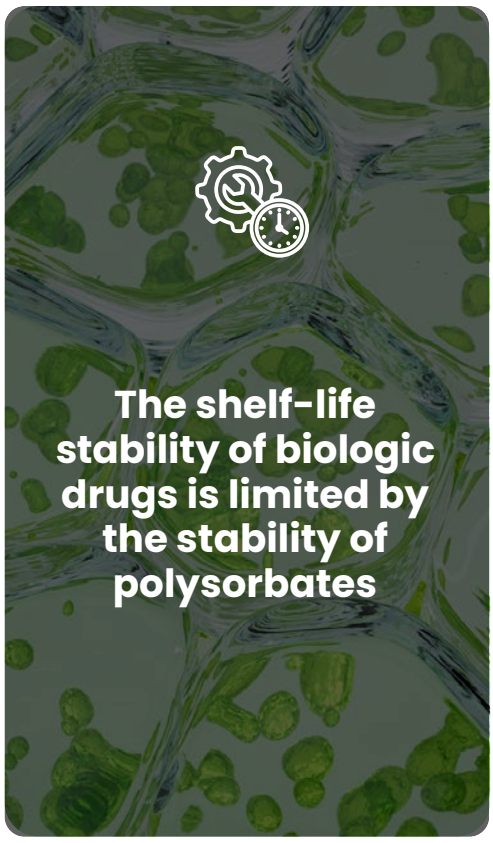
Polysorbates are used in 80% of all protein drugs on the market

Problems associated with polysorbates



Hydrolysis of Polysorbates results in degradation and subsequent aggregation of the protein





There has been little research on the development of a novel **surfactant designed** specifically to **address protein aggregation** & **stability in protein drugs**

OUR SOLUTION

Our patented PSar Solution

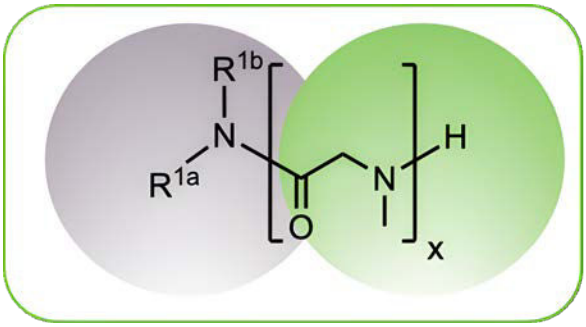
100+

polymers have been synthesized and screened

Critical structural parameters identified

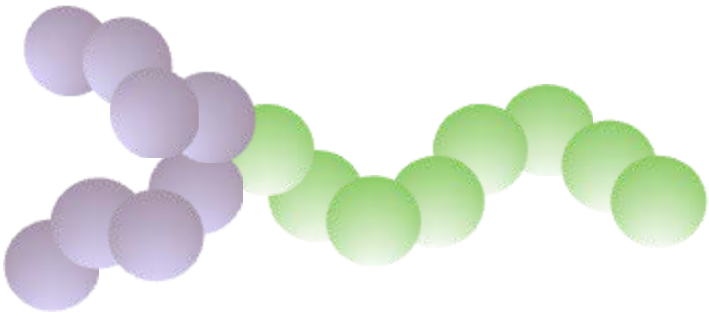
Short poly(sarcosine) block

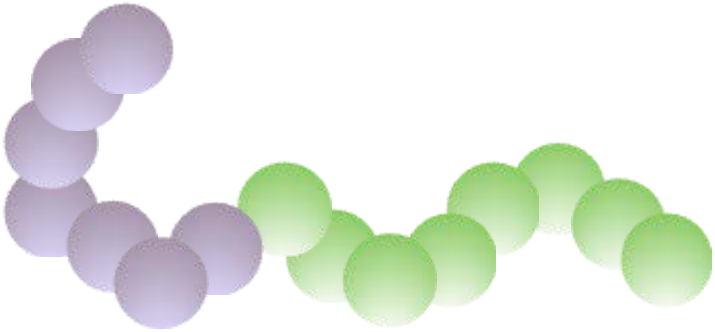
Variable hydrocarbon architectures Available: linear, branched, kinked



Linear: saturated hydrocarbon tail

Branched: two hydrocarbon tails

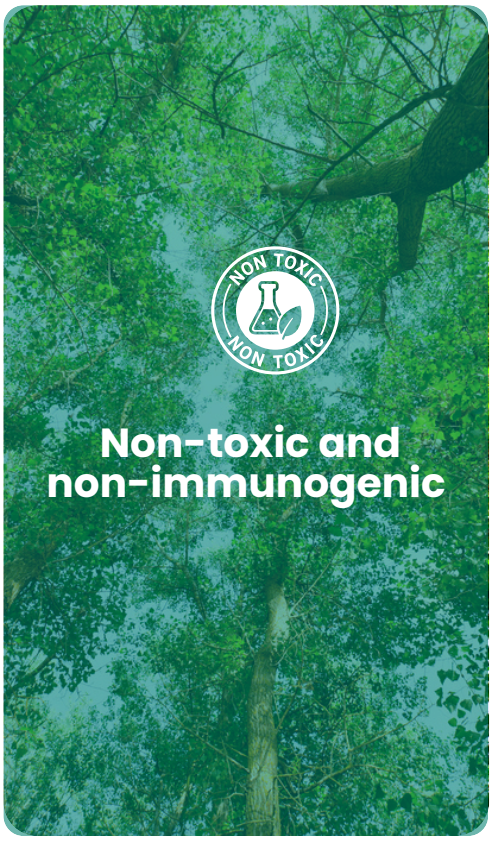


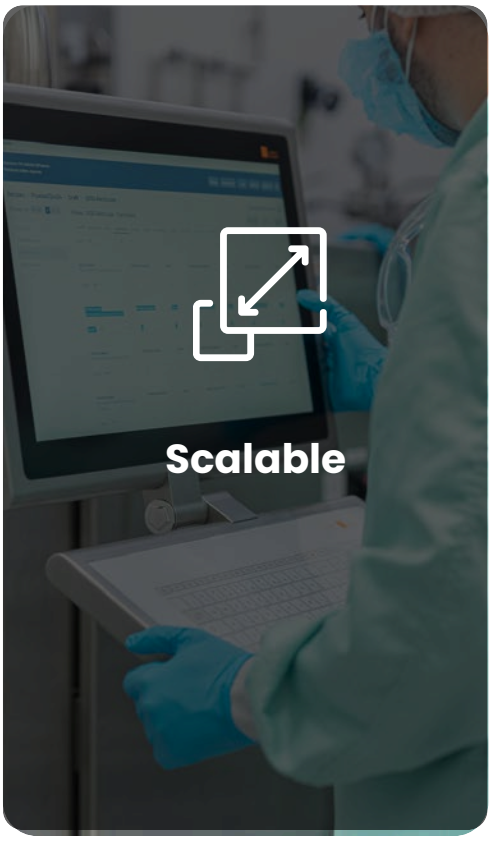


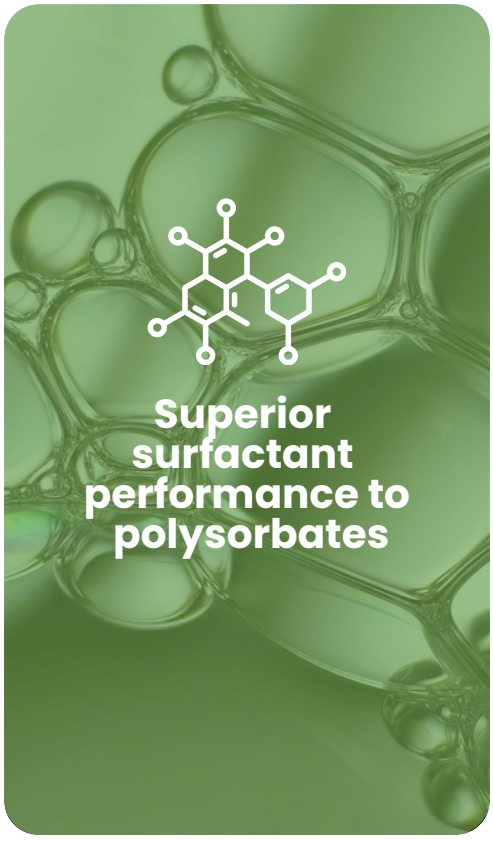
Kinked: unsaturated hydrocarbon tail

OUR SOLUTION

Our solution







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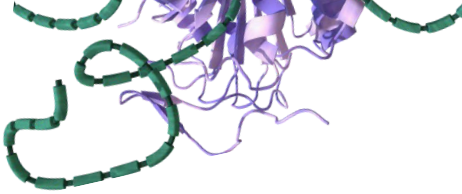
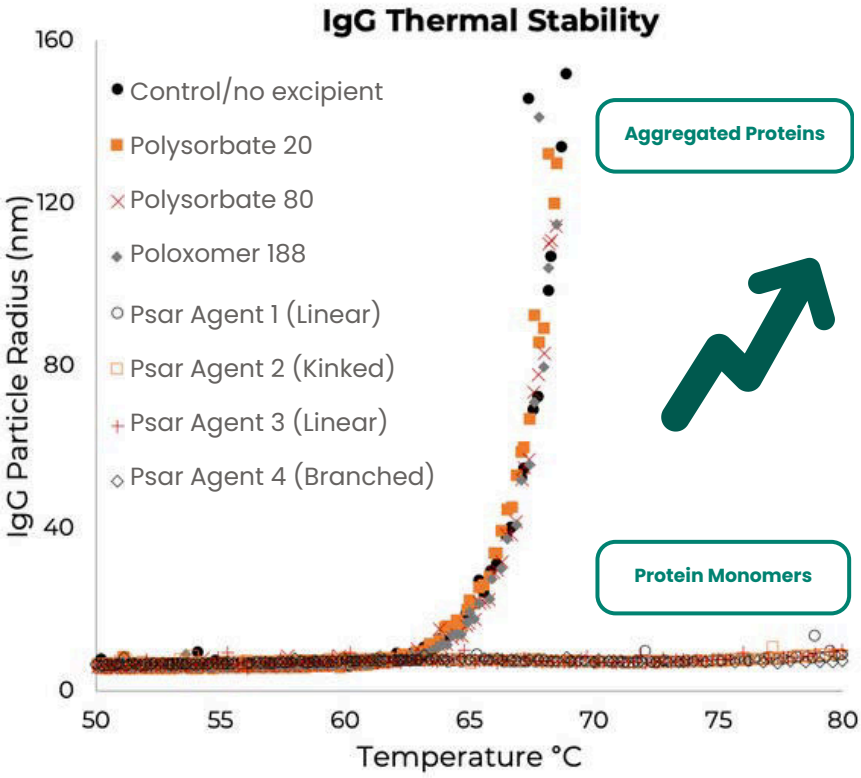
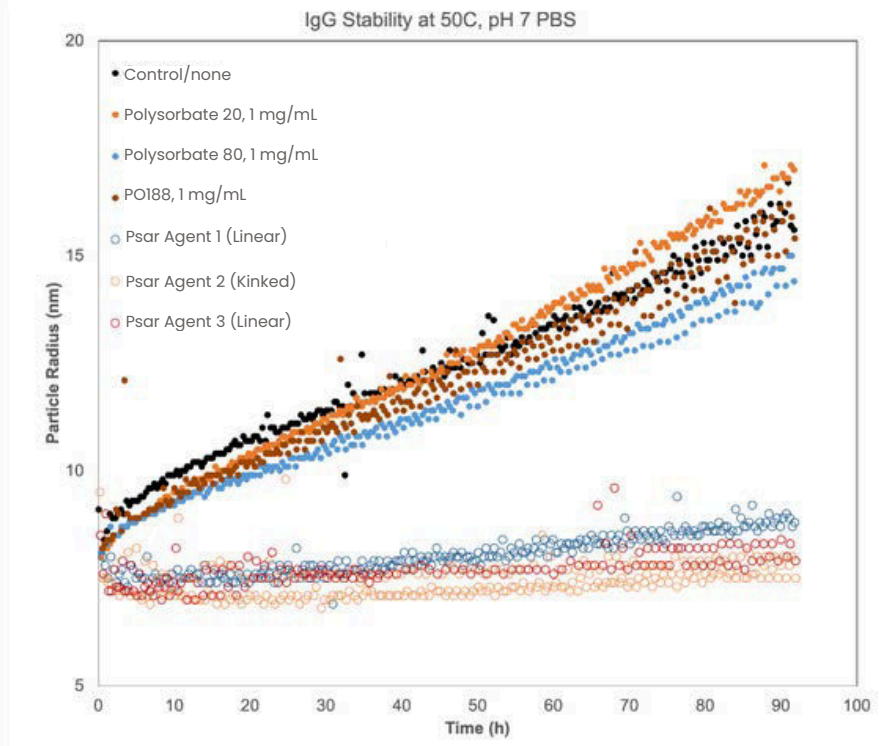


Thermal Stability



All our architectures **inhibit thermally-induced protein aggregation**

Stability over time

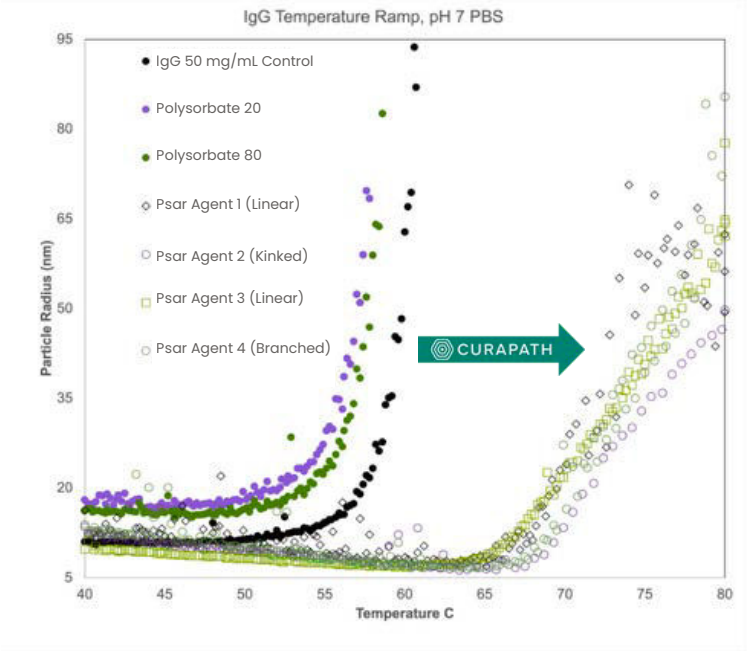


All our solubilizing polymers inhibited protein aggregation over

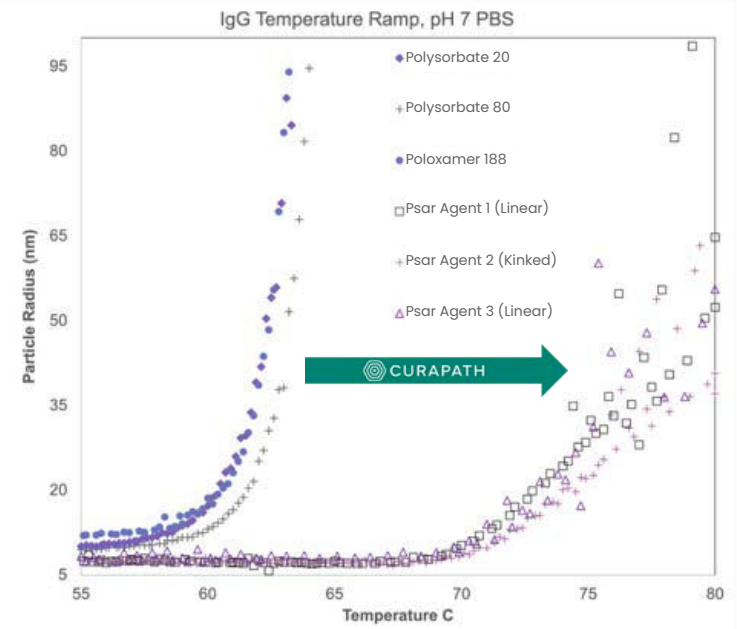
92+ hours

Solubility enhancement

20mg/mL IgG



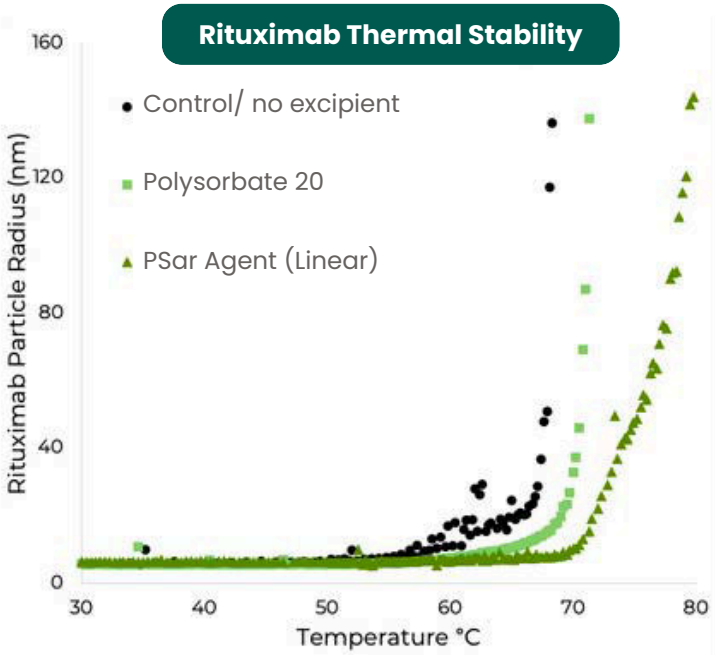
50mg/mL IgG



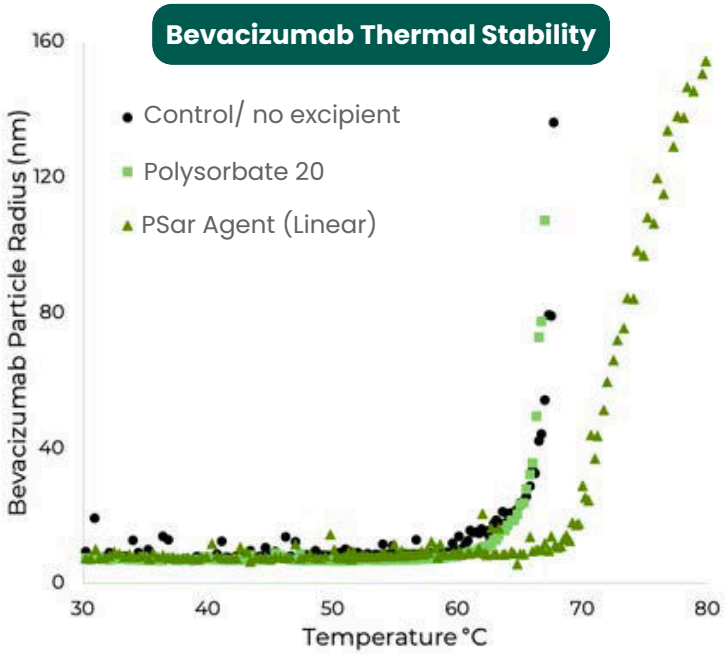
CURAPATH Solubilizer demonstrated marked superior aggregation inhibition at 20-50mg/mL protein concentrations compared to the state-of-the-art excipients

PoC with commercial drugs

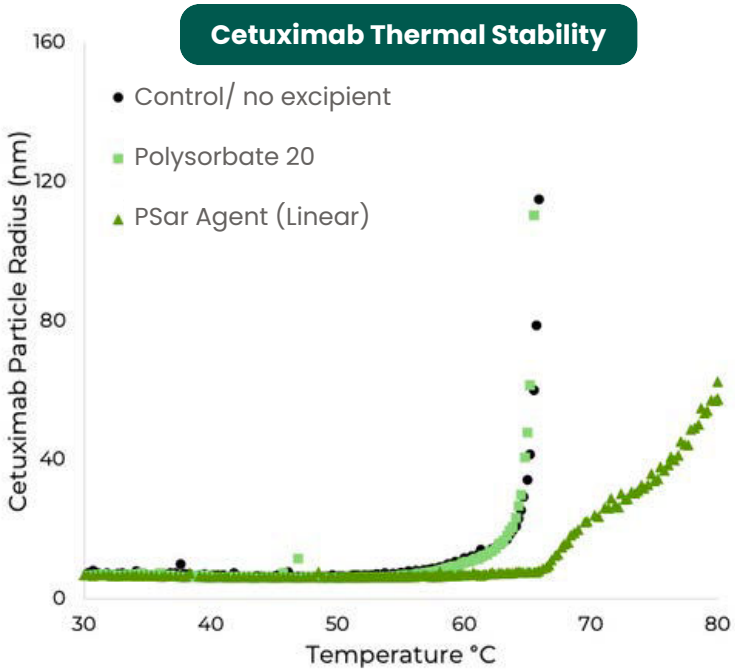
Rituximab Thermal Stability

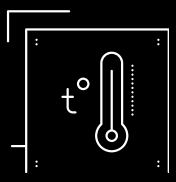


Bevacizumab Thermal Stability



Cetuximab Thermal Stability





Psar solubilizing agent outperforms polysorbate 20 for thermal stability of each approved mAb evaluated

For more information: bd@curapath.com

www.curapath.com

POC with approved proteins

After testing our PSar solubilizer with approved drugs we proved that

*Data Available upon request

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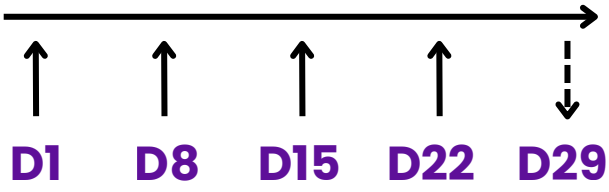
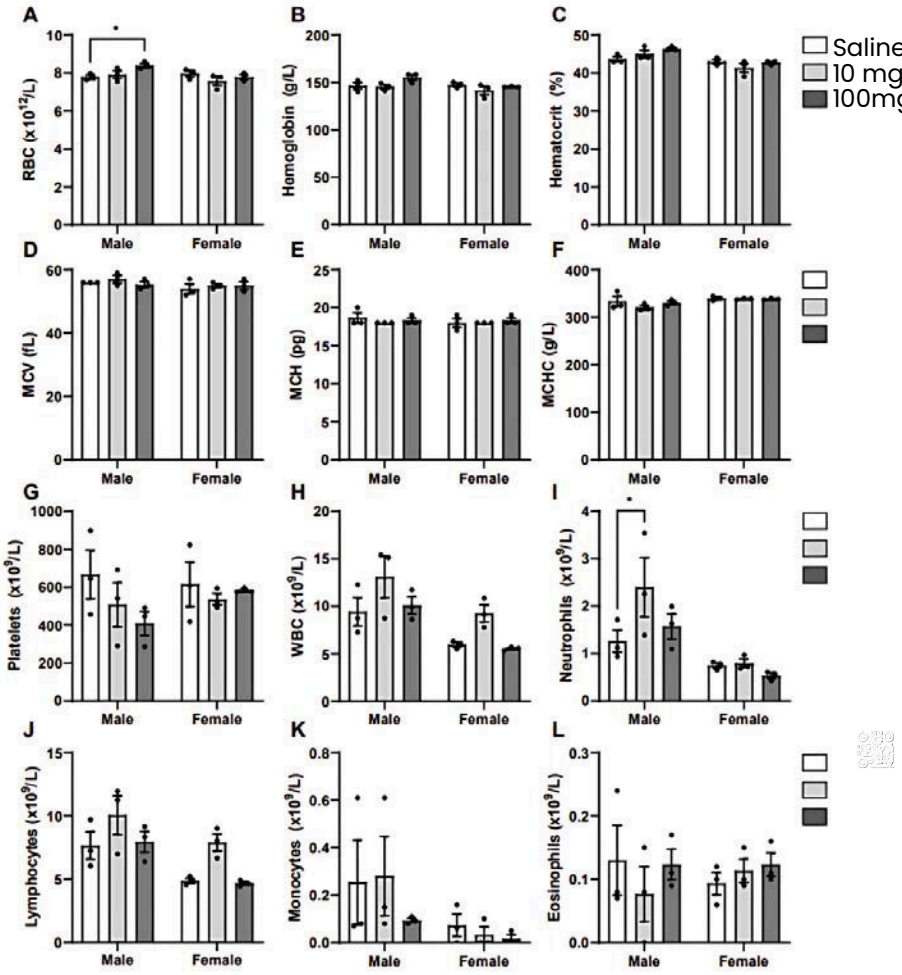
In vivo toxicity

Sprague-Dawley rats



Euthanasia, blood collection for biochemistry and hematology



Hematology profile in Sprague-Dawley rats. Male & female Sprague-Dawley rats were administered with saline or PSar excipient by intravenous injection once a week for 4 weeks.

In-vivo observations

The clinical signs were evaluated 10 minutes and 1h after the administration and on Days 2-3, 9-10, 16-17, 23-24 and 29. Signs of pain or distress evaluated. The injection site was observed and any abnormalities as erythema, edema or necrosis were monitored.

i.v. administration of 10 or 100 mg/kg of PSar excipient did not cause local irritation. Biochemistry and Hematology profiles comparable to control saline

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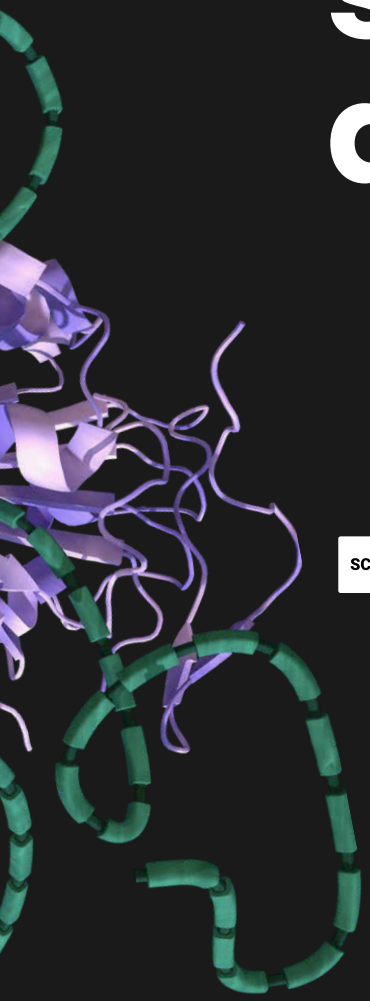

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