

# POLYSCIENCE

## SMALP Conference

19<sup>th</sup> of June 2020

*Stefan Scheidelaar, PhD*  
*SMA research chemist & SMALP specialist*





# Polyscience



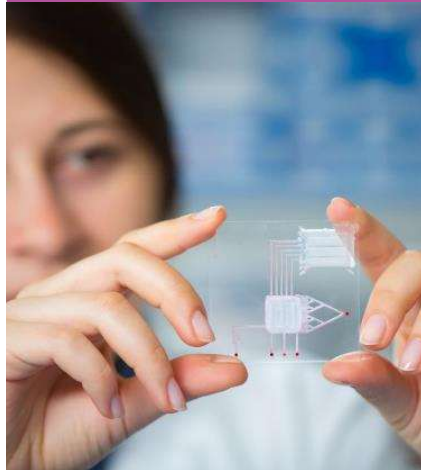
At **Polyscience**, our goal is:

- Offer customers SMA based innovative solutions in highly specialized fields.
- Support development on collaborative basis

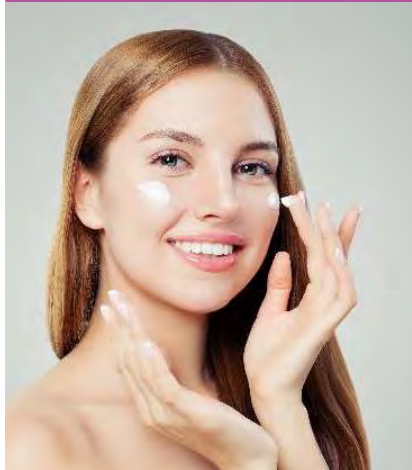
**Polyscience** is powered by *Polyscope Polymers*, the world's main supplier of SMA-based polymers.

# Healthcare

**Medical devices**  
Diagnostic cassettes  
*Microfluidics*



**Personal care**  
Cosmetic additives  
*Formulation stabilizer*



**Biomedical research**  
SMALP  
*Membrane proteins*



www.polyscience.eu

polyscience.eu



SMA ▾ ORDER YOUR PRODUCT ▾ SMALP ▾ TEAM NEWS CONTACT



## Taking SMA<sup>®</sup> one step further

At Polyscience, our goal is to inspire and assist you to push your application's boundaries to the next level, utilizing styrene-maleic anhydride (SMA) copolymers and/or their derivatives. Besides offering commercial and experimental SMA-based copolymers for your research needs, we also aim to support your development efforts. Polyscience is powered by Polyscope, the world's main supplier of SMA-based copolymers.

### SMA<sup>®</sup>

Poly(styrene-maleic anhydride) copolymers (SMA<sup>®</sup>) are a highly versatile copolymer class, containing both hydrophobic moieties (styrene) and reactive, functionalizable moieties (anhydride).

The properties of the base polymer are determined by the ratio of styrene to maleic anhydride and by the molecular weight. SMA<sup>®</sup> native resins are amorphous thermoplastic polymers that are very transparent and exhibit high heat resistance and dimensional stability.

[Read more about SMA](#)

### SMALP<sup>®</sup>

Styrene-maleic anhydride (SMA) copolymers are used as a detergent-free approach for membrane protein solubilization, isolation and cell membranes and subsequent characterization in downstream methods.

SMA copolymers have proven their value in the solubilization, purification, and characterization of a variety of membrane proteins, as described in over 200 scientific articles including comprehensive review articles. The usage of SMA copolymers for these applications is protected by patents for which Polyscience/Polyscope has licences - see page Intellectual Property.

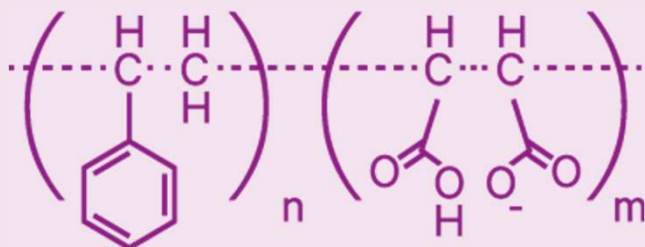
[Read more about SMALP](#)

- MP extraction guidance
- MP purification guidance
- FAQs on SMALPs

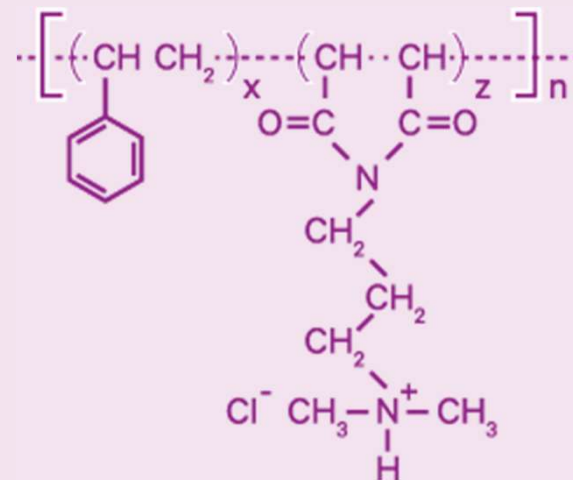


# Launch of SMALP® 1100 I

SMALP® 40005P, 30010P, 25010P

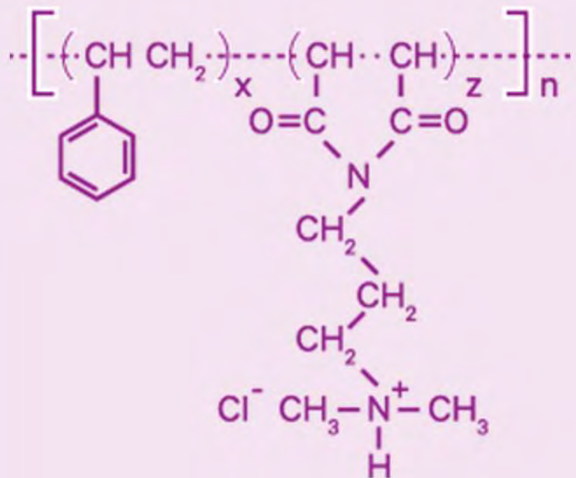


SMALP® 1100 I



# Launch of SMALP® 1100 I

## SMALP® 1100 I

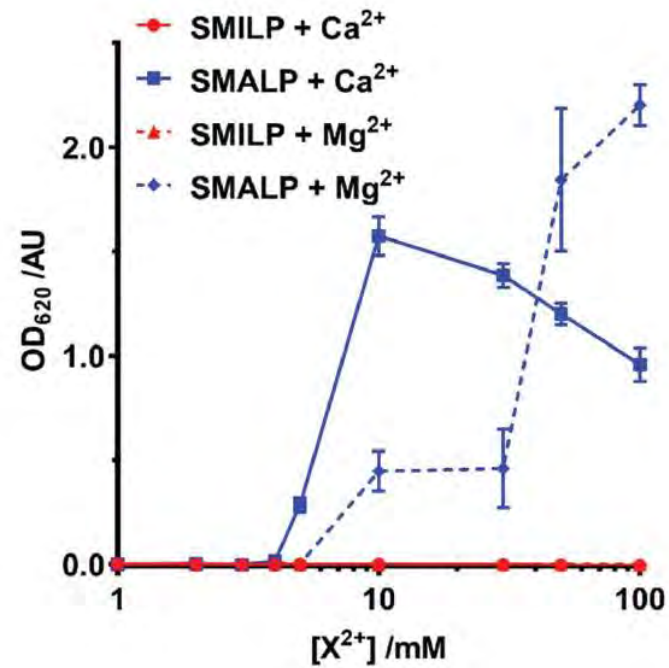
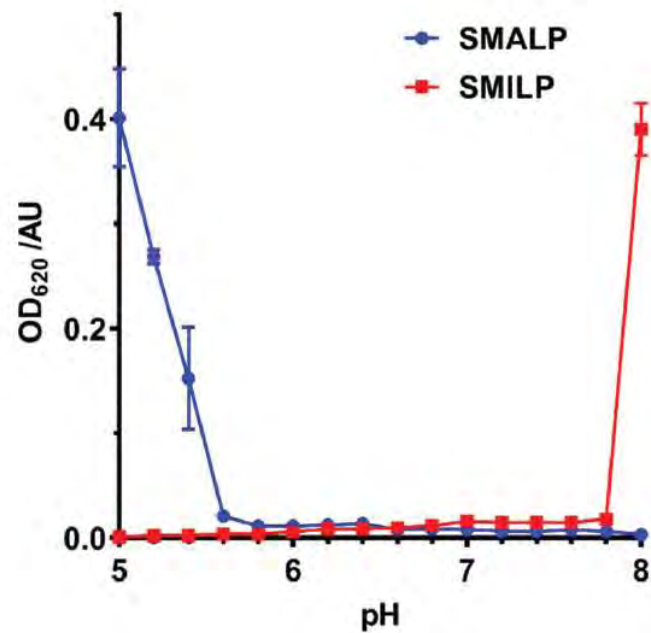


## Characteristics of SMALP:

- DMAPA imidized SMA derivative
- Positively charged
- Great hydrophilic/hydrophobic balance
- Works well below pH 8.0
- $Ca^{2+}$  and  $Mg^{2+}$  stable up to 100mM
- Excellent membrane solubilizing properties
- Extracts and purifies membrane proteins
- MP functional properties are maintained
- Aqueous solution, 20% w/w solids
- Darker colored

# Launch of SMALP<sup>®</sup> 1100 I

## pH & X<sup>2+</sup> stability

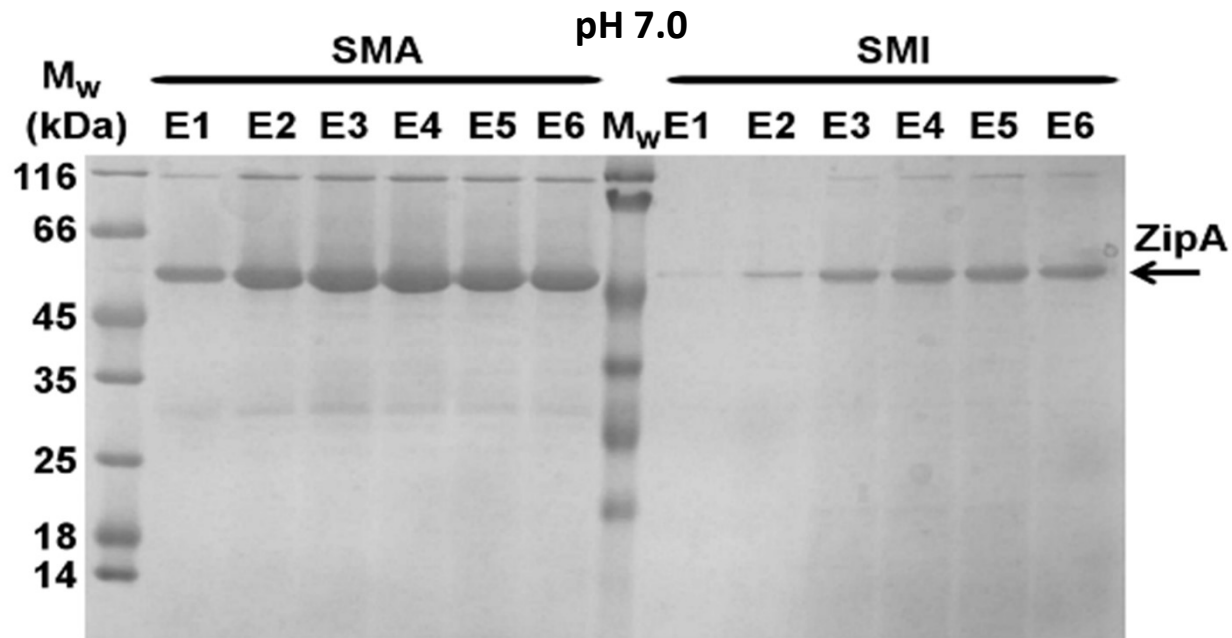


Hall et al. *Nanoscale*. 2018 Jun 7;10(22):10609-10619.



# Launch of SMALP<sup>®</sup> 1100 I

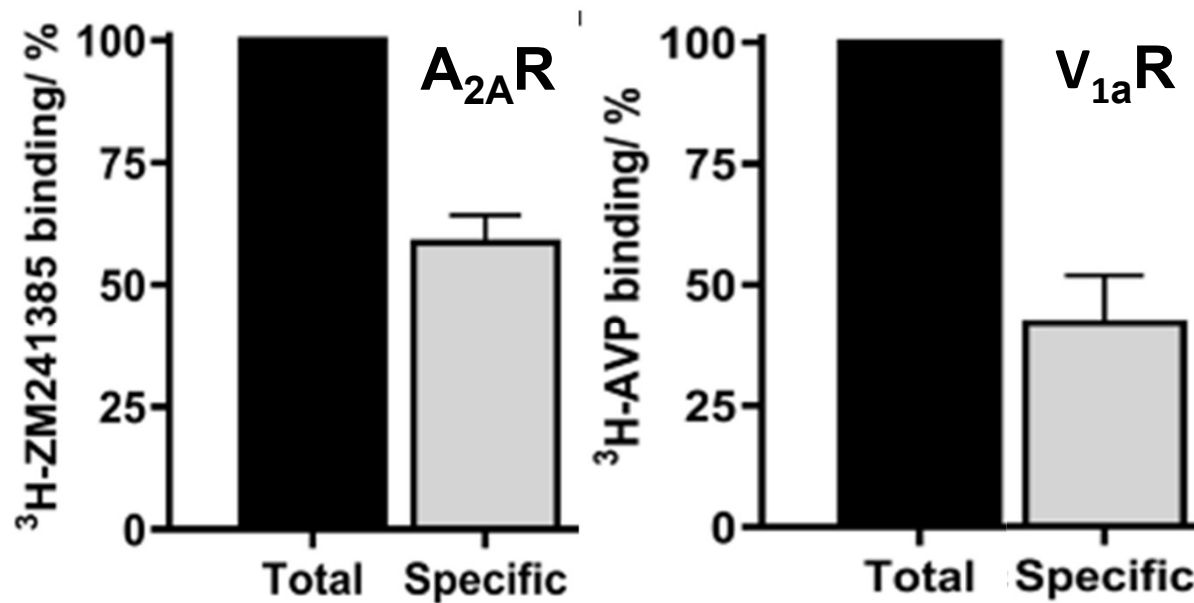
Extraction of membrane proteins: **ZipA**



Hall et al. *Nanoscale*. 2018 Jun 7;10(22):10609-10619.

# Launch of SMALP<sup>®</sup> 1100 I

Extraction of membrane proteins: **GPCRs A<sub>2A</sub>R & V<sub>1a</sub>R**



Hall et al. *Nanoscale*. 2018 Jun 7;10(22):10609-10619.

# Launch of SMALP® 1100 I

Introduction package SMALP® 1100 I.

Order SMALP® 25010P, SMALP® 30010P or SMALP® 40005P (min. 10g) and receive **5g of SMALP® 1100I for free\***.

*\* Only for orders via [www.polyscience.eu](http://www.polyscience.eu) with credit card. Offer subject to availability.  
[www.polyscience.eu](http://www.polyscience.eu)*

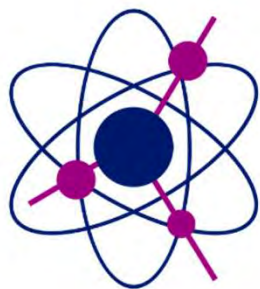


# Outlook

We will work on the **future**:

- Expanding the polymer toolkit with new products
- Collaborate with academic and pharma partners
- Updating the website with supportive documents
- Attending various meetings
- Support SMALP.net platform





# POLYSCIENCE

Taking SMA one step further

Visit our website: [www.polyscience.eu](http://www.polyscience.eu)

Feel free to contact me at [sscheidelaar@polyscience.eu](mailto:sscheidelaar@polyscience.eu)