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Glass Milk preparation

Martin Codyre¹¹University of Dublin, Trinity College

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Martin Codyre

University of Dublin, Trinity College

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Protocol status: In development

We are still developing and optimizing this protocol

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MATERIALS

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✂ Tris, 1 M, pH 8.0 **Ambion Catalog #AM9855G**

✂ Hydrochloric acid **Merck MilliporeSigma (Sigma-Aldrich) Catalog #320331-500ML**

✂ UltraPure™ 0.5 M EDTA pH 8.0 **Thermo Fisher Scientific Catalog #1557502**

✂ Silica 325 Mesh **Contributed by users**

STEP MATERIALS

✂ Tris, 1 M, pH 8.0 **Ambion Catalog #AM9855G**

✂ UltraPure™ 0.5 M EDTA pH 8.0 **Thermo Fisher Scientific Catalog #1557502**

✂ Silica 325 Mesh **Contributed by users**

✂ Hydrochloric acid **Merck MilliporeSigma (Sigma-Aldrich) Catalog #320331-500ML**

✂ MilliQ water **Contributed by users**

325 mesh silicon dioxide (Spectrum Chemicals - SI108) Silica 325 mesh is a flint glass powder available from ceramic shops

https://www.spectrumchemical.com/OA_HTML/chemical-products_Silicon-Dioxide-325-Mesh-Crystalline_SI108.jsp?section=16930

Millipore Sigma 320331 HCl

SAFETY WARNINGS

dry silica powder should not be inhaled

Glass Milk Preparation

7h

- 1 To prepare glass milk, 325 mesh silicon dioxide (Spectrum Chemicals - SI108)

45m

✂ Silica 325 Mesh **Contributed by users**

was combined with an excess volume of 10% HCl (~3 N HCl) made from combining 37%

✂ Hydrochloric acid **Merck MilliporeSigma (Sigma-Aldrich) Catalog #320331-500ML**

and MilliQ water (Millipore) in a fume hood

✂ MilliQ water **Contributed by users**

Equipment	
Fume hood	NAME
Fume hood	TYPE
Generic	BRAND
Unknown	SKU

Safety information

Note
(dry silica powder should not be inhaled).

- 2

After acid washing for 04:00:00 Possibly 4 to 8 hours at room temperature

Room temperature , silica was pelleted by spinning two minutes at 5000 rpm, 00:02:00 5,000 xg and the supernatant was poured off.

6h
- 3

The pellet was resuspended in four pellet volumes of MilliQ water **Contributed by users** and then pelleted again.

This wash step was repeated for a total of six washes.

1h
- 4

The pellet was then washed with four pellet volumes of 10 mM Tris HCl, pH = 8 (ThermoFisher Scientific AM9855G)

Tris, 1 M, pH 8.0 **Ambion Catalog #AM9855G** and 1 mM EDTA (ThermoFisher Scientific 15575020),

30m

and pelleted.

- 5 Finally, the pellet was resuspended in 1 pellet volume of 10 mM Tris HCl and 1 mM EDTA and autoclaved. This autoclave step is likely superfluous, however, as acid washes should render the beads free of contaminants. The resulting 50% glass milk slurry can be stored at room temperature.

30m

Before use, care must be taken to vigorously resuspend the particles as they begin to settle quickly.