Agar Scientific Ltd
Unit 7, M11 Business Link
Parsonage Lane, Stansted
Essex, UK CM24 8GF
t: +44 (0)1279 215 506
f: +44 (0)1279 813 105
e: sales@agarscientific.com
w: agarscientific.com

Embedding in Araldite CY 212 for Electron Microscopy

AGR1030

Araldite CY 212 (or Araldite M) was the first epoxy resin embedding medium developed for electron microscopy (see Glauert, A.M. and Glauert, R.H., 1958, J. biopyhs. biochem. Cytol 4, 191-194).

The suggested standard embedding medium is as follows:

Araldite CY 212 (M)	20ml	(23.0g)
DDSA	22ml	(22.0g)
BDMA (C.3%)	1.1ml	(1.2g)

Softer blocks may be obtained by adding a small amount of the plasticiser, dibutyl phthalate (e.g. 1.0ml to the standard embedding medium).
For harder blocks, replace 1.0ml of the DDSA with 0.5ml of the hardener, methyl nadic anhydride (MNA).

Complete mixing of the components of epoxy resin embedding media is very important and is facilitated if the Araldite resin and the DDSA hardener, and a graduated cylinder and a conical flask, are warmed to 60°C before mixing.

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Measure the amounts (by volume) of the warm resin and hardener (from their separate containers) into the warm graduated cylinder and pour them immediately into the warm conical flask. Shake the mixture gently by hand with rotation. Mixing will be complete within a few minutes if the components and the mixing vessel have been pre-warmed. Then add the BDMA (1.1ml for every 20ml of Araldite and 22ml of DDSA) and continue shaking by hand for a further minute or two.

This embedding medium hardens overnight at 60°C, but longer times of 24 to 48 hours may slightly improve the sectioning properties of the final block. The curing temperature should not be higher than 60°C.

For detailed advice on the use of epoxy resins for embedding consult Audrey M. Glauert (1991) Epoxy resins: an update on their selection and use.
Microscopy and Analysis, September 1991, pp. 15-20.