E2799
Evans Blue

Synonyms:	Direct Blue 53
CAS:	314-13-6
Formula:	$C_{34}H_{24}N_6Na_4O_{14}S_4$
Mol. Weight:	960.81

Properties

Form:	Powder
Appearance:	Blue-Green to Brown or Black
Application:	Molecular Biology, Histology
Solubility:	Water
Storage Temp:	Room Temperature
Typical Working Concentration:	Varies with application, should be determined by end user.

Application Notes

An azo dye commonly used to assess cell viability. The viability assay works on the basis of its penetration into non-viable cells. Living cells exclude Evans Blue, while dead or damaged cells take up the dye, staining blue.

Batty et al (2001) reports using Evans Blue to stain orchid seeds for viability testing, using a 1% (w/v) solution and staining for 1 hour. Stained sections of the tissue can be visualized using a light microscope.

Evans Blue staining can also be used to differentiate embryogenic and non-embryogenic callus cells. Ahmad et al (2013) used a 1% (w/v) Evans Blue solution to incubate rice (*Oryza sativa*) callus cells for 10 minutes at room temperature. The results were non-embryogenic cells stained an intense blue color, while the embryogenic callus cells were very slightly stained blue.

References:

Ahmad, F. I., Johan, N. S., & Wagiran, A. (2013). Effect of 2, 4-D on Embryogenic Callus Induction of Malaysian indica Rice (Oryza sativa L.) Cultivars MR123 and MR127. Jurnal Teknologi, 64(2).

Baker CJ, Mock NM (1994) An improved method for monitoring cell death in cell suspension and leaf disc assays using Evans blue. Plant Cell, Tissue and Organ Culture 39, 7–12.

Batty, A. L., Dixon, K. W., Brundrett, M., & Sivasithamparam, K. (2001). Long-term storage of mycorrhizal fungi and seed as a tool for the conservation of endangered Western Australian terrestrial orchids. Australian Journal of Botany, 49(5), 619-628.

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