

MONOBLUE NafX

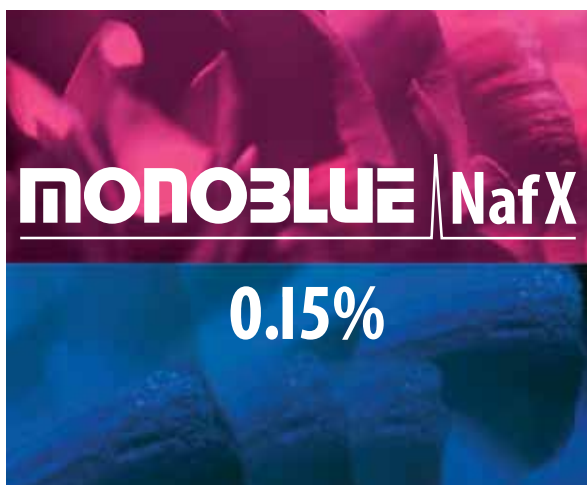
HIGH DENSITY TRYPAN BLUE

+ FREE RADICALS SCAVENGER



Arcad allows you to choose

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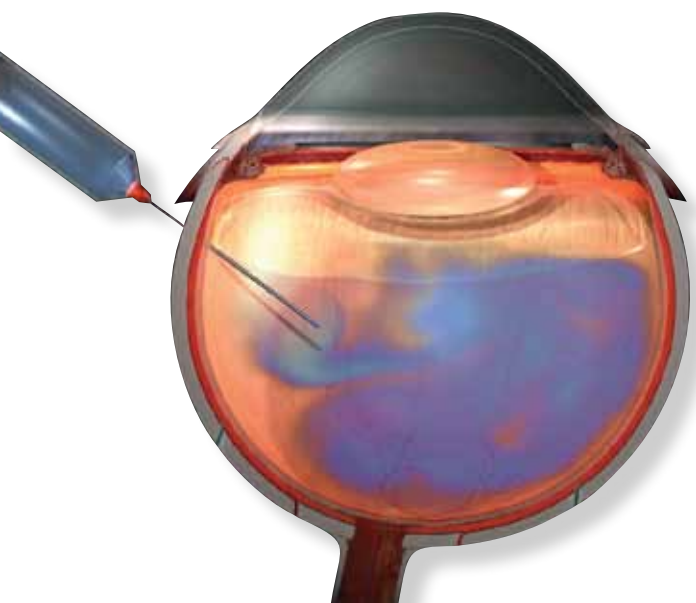


Heavy 0.15%
ultra-pure trypan blue
for ILM & ERM staining

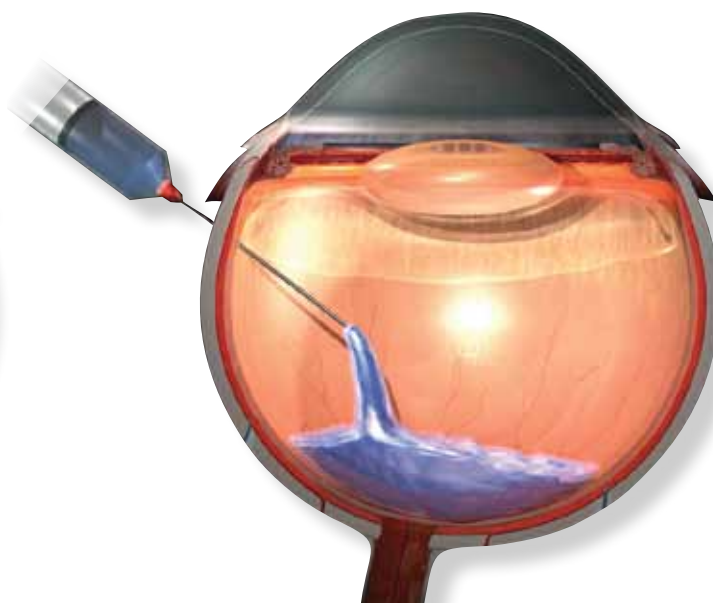
MONOBLUE Naf X (No Air Fluid eXchange)
0.15% Purified Trypan Blue + Mannitol + Deuterium Oxide

■ High density MONOBLUE Naf X is effective for ILM & ERM Staining

High density MONOBLUE Naf X makes the application easier and improves trypan blue contact with vitreoretinal membranes.



Injection of a standard trypan blue in the vitreous cavity



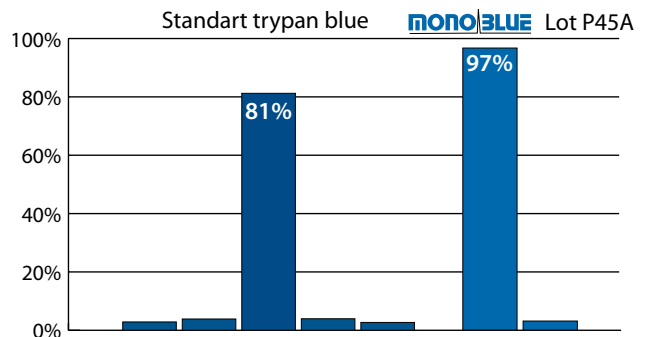
Injection of MonoBlue Naf X directly onto ILM & ERM

- High density MONOBLUE Naf X makes easier and safer staining procedures on ILM & ERM.
- High density MONOBLUE Naf X suppresses air fluid exchange steps risks.
- High density MONOBLUE Naf X enables to decrease the vitreoretinal surgery duration.
- High density MONOBLUE Naf X enables an effective staining of ILM & ERM within 30 seconds.

MONOBLUE Naf X WITH MANNITOL INCREASES SAFETY OF TRYPAN BLUE

■ An ultra-pure staining agent guaranteed by Arcad process.

- No O-tolidine
- No purple compound
- No mono-azo
- Phthalate free
- Preservative free
- Latex free
- Endotoxin: ≤ 0.5 UE/mL

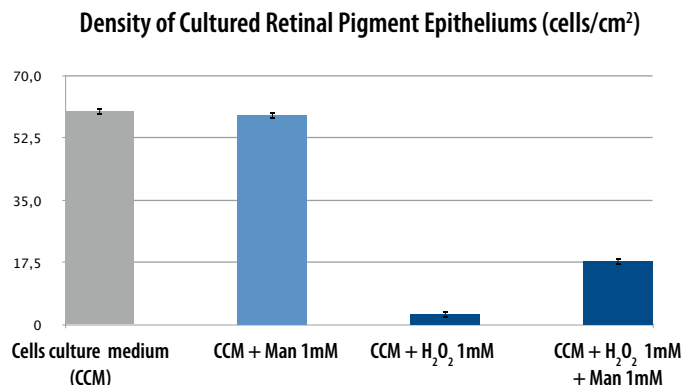


MANNITOL, A FREE RADICAL SCAVENGER

■ Mannitol: an effective anti-oxydant agent in intraocular use.

Mannitol protects retinal pigment epithelium cells from the oxidative effect of H_2O_2 .^(1,2)

- CCM + H_2O_2 1mM: 3 cells/cm²
- CCM + H_2O_2 1mM + Mannitol 1 mM : 18 cells/cm²
- CCM + Mannitol 1 mM: 59 cells/cm²



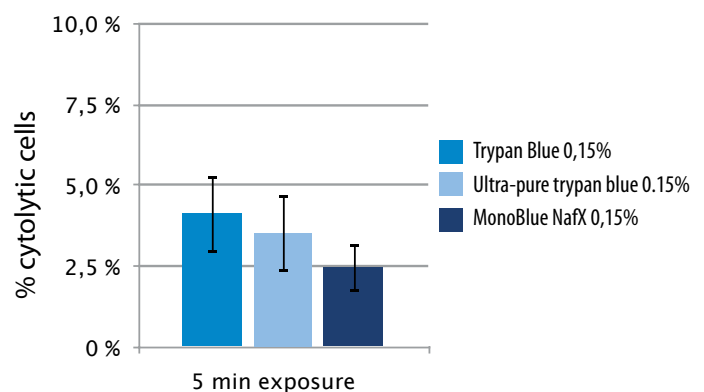
MONOBLUE Naf X, A BETTER TOLERANCE

■ An increased protection for human retinal cells.

MONOBLUE Naf X induces less cytotoxicity for human retinal cells than 0.15% trypan blue solution after a 5 min exposure^(3, 4).

- Trypan blue 0.15% : $4.1 \pm 1.2\%$ cytolysed cells
- Ultra-pure trypan blue 0.15% : $3.5 \pm 1.2\%$ cytolysed cells
- MONOBLUE Naf X 0.15% : $2.5 \pm 0.8\%$ cytolysed cells

ARPE-19 cells 48h culture post exposure



MONOBLUE Naf X PRESENTATION GUARANTEES A CONTROLLED INJECTION

Prefilled syringe of 0.15% trypan blue + luer/luer connector + tuberculin syringe.

■ MONOBLUE Naf X syringe is packed with a long-barrel tuberculin syringe for additional improvement of the injection, and the distribution of trypan blue on target areas.

■ MONOBLUE Naf X is smoothly delivered on vitreoretinal membranes and prevents potential subretinal passage of the staining solution.



5 syringes 0.75ml + accessories / box

MONOBLUE Naf X INDICATIONS (No Air Fluid eXchange)



■ Staining for internal limiting membrane peeling.

Mackenzie SE, Gandorfer A, Rohleder M, Schumann R, Schlottmann PG, Bunce C, Xing W, Gregor Z, Charteris DG. Ultrastructure and retinal imaging of internal limiting membrane: a clinicopathologic correlation of trypan blue stain in macular hole surgery. *Retina*. 2010 Apr;30(4):655-61.

Perrier M, Sébag M. Trypan blue-assisted peeling of the internal limiting membrane during macular hole surgery. *Am J Ophthalmol*. 2003 Jun;135(6):903-5.

■ Staining for epiretinal membrane peeling.

Balayre S, Boissonnot M, Curutchet L, Dighiero P. [Role of trypan blue in epiretinal membrane surgery]. *J Fr Ophthalmol*. 2005 Mar;28(3):290-7.

Feron EJ, Veckeneer M, Parys-Van Ginderdeuren R, Van Lommel A, Melles GR, Stalmans P. Trypan blue staining of epiretinal membranes in proliferative vitreoretinopathy. *Arch Ophthalmol*. 2002 Feb;120(2):141-4.

■ Bibliography.

1. Liu JH and a. Therapeutic effects and mechanisms of action of mannitol during H₂O₂-induced oxidative stress in human retinal pigment epithelium cells. *J Ocul Pharmacol Ther*. 2010 Jun;26(3):249-57.

2. Gupta LY, Marmor MF. Mannitol, dextromethorphan, and catalase minimize ischemic damage to retinal pigment epithelium and retina. *Arch Ophthalmol*. 1993 Mar;111(3):384-8.

3. Arcad Study on Human Retinal Cells. 2011, Oct.

4. Lei H, Velez G, Cui J, Samad A, Maberley D, Matsubara J, Kazlauskas A. N-acetylcysteine suppresses retinal detachment in an experimental model of proliferative vitreoretinopathy. *Am J Pathol*. 2010 Jul;177(1):132-40

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