BLutein™ Dyes

A complete ophthalmic dye range designed to help free you from safety profile concerns

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Safer dyes are needed for **ophthalmic surgery**

- Vital dyes are commonly used to **improve visualisation** of delicate intraocular tissues during ophthalmic surgery [1,2]
- Although many dyes are currently available, they are **synthetic** and associated with **concerns about retinal toxicity** [1,3,4]
- To allow you to focus on offering the best possible patient outcomes, the **ideal dye** for eye surgery should offer:

1 **High safety profile for intraocular use**

2 **Reliable staining**

3 **Selective staining**

4 **Rapid elimination during removal**

Introducing BLutein™ Dyes: The complete ophthalmic dye range designed to help free you from safety profile concerns

The **BLutein™** range consists of dyes for both posterior segment staining and anterior capsule staining, so you always have a dye that meets your surgical needs

for staining
the vitreous

for staining
the ILM

for staining
the ILM and ERM

for staining
the anterior capsule

ERM: Epiretinal membrane; **ILM:** Internal limiting membrane.

BLutein™ Dyes: The first and only dyes for eye surgery to contain lutein

The BLutein™ Dyes all contain **naturally sourced lutein**

- Lutein is a pigment **physiologically present in the human retina,** known to be important for **overall eye health** [5-8]

Lutein may also help **protect the retina** during surgery by:

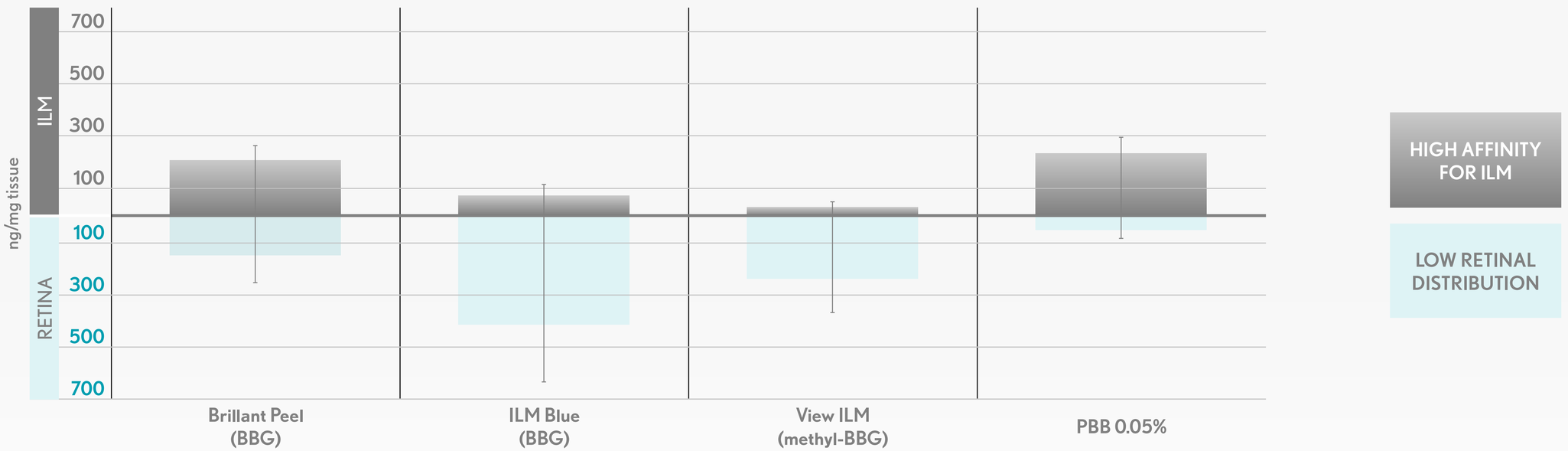
- Absorbing damaging blue light before it reaches retinal cells through its blue light filter action [9,10]
- Acting as an antioxidant to neutralise free radicals that may be harmful to retinal cells [11-13]
- Reducing iatrogenic stress to the retinal tissue allowing faster functional recovery after surgery [14]

The BLutein™ Dyes for ILM and ERM staining **also contain highly pure PBB®** [15-17]

- PBB® is an innovative, patented intraocular blue dye component designed to optimise safety profile, with: [15-17]

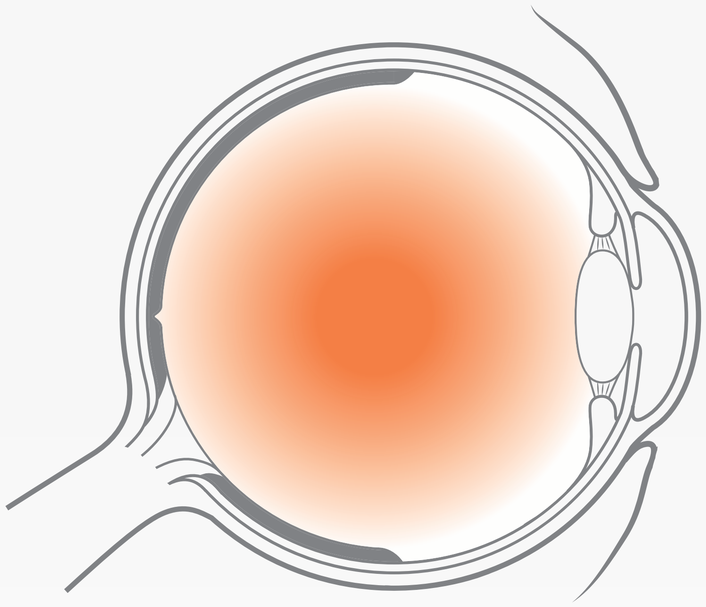
☑	☑	☑	☑
99% purity [15]	Greater ILM tissue selectivity compared to BBG [16,17]	Lower retinal distribution versus BBG [16,17]	Minimal dye reaching inner retinal layers thus reducing risk of iatrogenic retinal damage [16,17]

Ex vivo dye distribution in ILM and retina of porcine eyes [16,17]



BBG: Brilliant Blue G; **ERM:** Epiretinal membrane; **ILM:** Internal limiting membrane; **PBB®:** Pure Benzyl-Brilliant Blue.

BLutein™ **Vitreo Lutein** Vitreous Staining Dye



- 2% crystalline Lutein

Designed to:

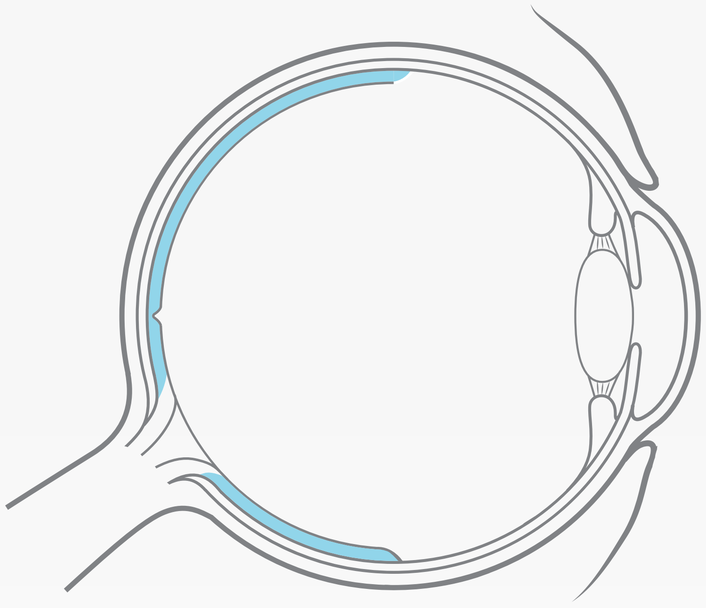
- Improve visualisation of the vitreous during surgery

With the aim of:

- Reducing surgery time
- Minimising risk of complications

DYE300
1 ml sterile single use glass vials
(10 units per box)

BLutein™ **Single Lutein Blue** ILM Staining Dye



- 1% soluble Lutein
- 0.05% PBB®

Designed to:

- Provide precise identification of the ILM during surgery
- Improve visualisation of the ILM

With the aim of:

- Reducing surgery time
- Minimising risk of complications

DYE400
0.5 ml sterile glass pre-filled syringes
(5 units per box)

ILM: Internal limiting membrane; **PBB®:** Pure Benzyl-Brilliant Blue.

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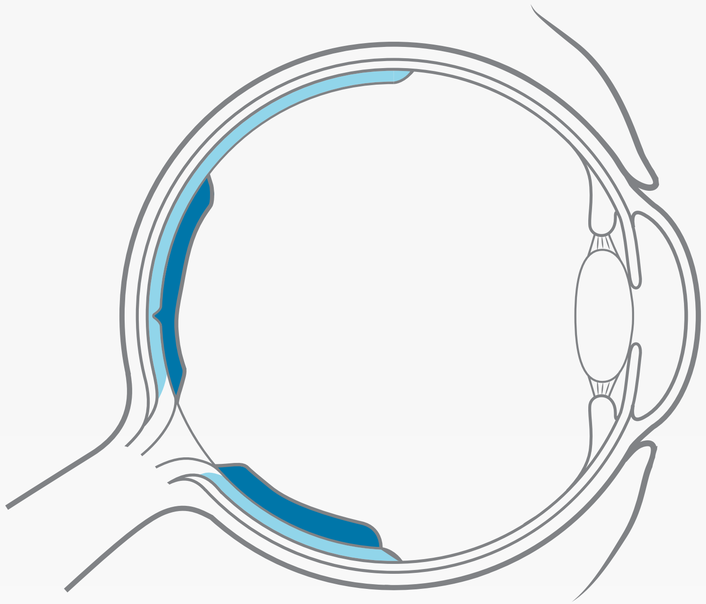
BLutein™ **Double Lutein Blue** ILM and ERM Staining Dye



- 2% soluble Lutein
- 0.05% PBB®
- 0.15% trypan blue

Designed to:

- Provide precise identification of the ILM and ERM during surgery
- Improve visualisation during surgery

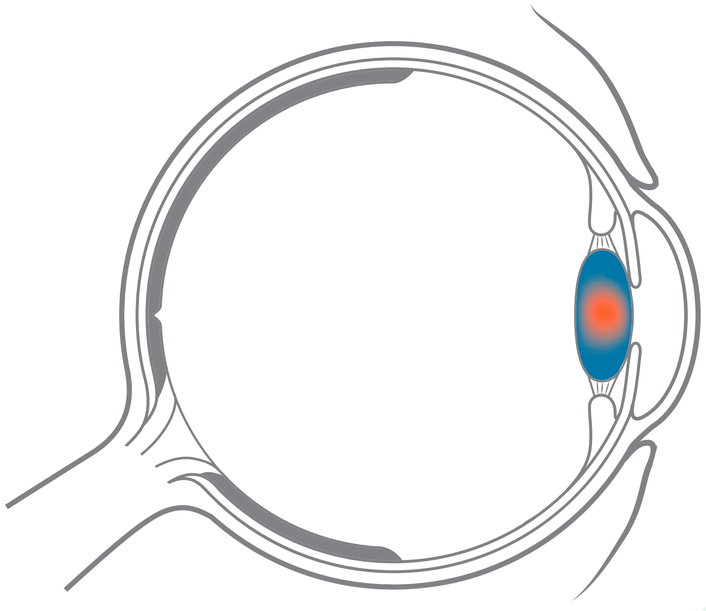
With the aim of:

- Reducing surgery time
- Minimising risk of complications

DYE500
0.5 ml sterile glass pre-filled syringes
(5 units per box)

ERM: Epiretinal membrane; **ILM:** Internal limiting membrane; **PBB®:** Pure Benzyl-Brilliant Blue.

BLutein™ **Phaco Lutein** Anterior Capsule Staining Dye



- 1% soluble Lutein
- 0.04% trypan blue

Designed to:

- Provide optimal anterior capsule staining for cataract surgeries
- Facilitate visualisation of the anterior lens capsule
- Facilitate continuous curvilinear capsulorhexis

DYE200
0.5 ml sterile glass pre-filled syringes
(5 units per box)

BLutein™ Dyes

The first and only complete dyes range for posterior and anterior eye surgeries, with the benefits of lutein, designed to help free you from safety profile concerns

- With patented lutein and PBB® selected for their optimised safety profile and proven efficacy[14-17]

References

1. Bergamo VC *et al.*, Asia Pac J Ophthalmol (Phila). 2021; 10: 26-38. 2. Rodrigues EB *et al.*, Am J Ophthalmol. 2010; 149: 265-77. 3. Casaroli-Marano RP *et al.*, Curr Eye Res. 2015; 40: 707-718. 4. Morales MC *et al.*, Invest Ophthalmol Vis Sci. 2010; 51: 6018-6029. 5. Buscemi S *et al.*, Nutrients. 2018; 10: 1321. 6. Bernstein PS *et al.*, Prog Retin Eye Res. 2016; 50: 34-66. 7. Lima VC *et al.*, Int J Retin Vitr. 2016; 2:19. 8. Beccera MO *et al.*, J Funct Foods. 2020; 66: 103771. 9. Junghans A *et al.*, Arch Biochem Biophys. 2001; 391:160-164. 10. Sasaki M *et al.*, J Nutr Biochem. 2012; 23: 423-429. 11. Bian Q *et al.*, Free Radic Biol Med. 2012; 53: 1298-1307. 12. Sundelin SP *et al.*, Free Radic Biol Med. 2001; 31: 217-225. 13. Kim SR *et al.*, Exp Eye Res. 2006; 82: 828-839. 14. Romano MR *et al.*, Graefes Arch Clin Exp Ophthalmol. 2018; 256: 1573-1580. 15. European Patent EP 3 692 101 B1. 16. Spadaro A *et al.*, Frontiers Pharmacol. 2020; 11: 708. 17. Bucolo C *et al.*, Poster #39-A0113. Presented at ARVO Annual Meeting 2019.

Please read the Instructions for Use (IFU) / Directions for Use (DFU) for important product use and safety information for BLutein™ Dyes.

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