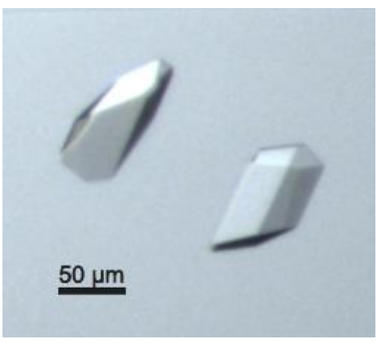
Molecular Dimensions ACHIEVE MORE.

Morpheus III

Cure your screening problems with the drug-like additives in Morpheus III.

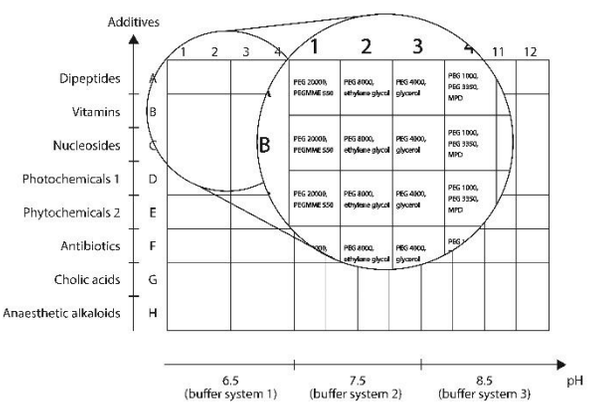
Exclusively from Molecular Dimensions, the new Morpheus® III screen uniquely contains a range of small, drug-like compounds to aid protein stabilisation and crystallisation.



Crystals of human USB 1 (2H phosphoesterase) obtained with Morpheus III. With kind permission of Dr Christine Hilcenko (University of Cambridge, UK).

- Increases the chances of a hit by expanding the amount of chemical space screened with drug-like additives, including phytochemicals, antibiotics, cholic acid derivatives and vitamins.
- Unique to Morpheus III, these compounds aid crystallisation, as they can be protein-stabilising and are often found in structures in the PDB.
- Hits can be easily optimised with the Hippocrates additive screen which contains all 44 drug-like compounds used in Morpheus III.
- Morpheus III is not biased towards particular macromolecules or reagents as it was designed *de novo* and optimised against a broad range of protein samples.
- Developed by Dr Fabrice Gorrec of the MRC-LMB, Cambridge, UK, the creator of a range of popular and novel screens including Morpheus and the LMB Crystallisation screen, all of which have successfully crystallised a number of challenging targets.

Dr Fabrice Gorrec of MRC-LMB, Cambridge, UK developed the popular Morpheus and Morpheus II screens, which have been proven to be very efficient at crystallising a broad variety of protein samples. Just as with those screens, Morpheus III was designed from scratch and optimised against a broad range of protein samples to avoid bias.



Morpheus III 96-condition screen layout. The systematic, 3D grid screen consists of 8 additive mixes, 4 cryoprotecting precipitant mixes (eg PEG 4000 with glycerol) and 3 buffer systems (pH 6.5, 7.5 and 8.5).

References

Gorrec, F. *Acta Cryst F* **71**: 831-837 (2015).
Gorrec, F. *J. Appl. Cryst.* **46**: 795-7 (2013).
Gorrec, F. *J. Appl. Cryst.* **42**: 1035-42 (2009).

The Morpheus III screen and Hippocrates additive screen were developed at the MRC-LMB, Cambridge, UK and exclusively licensed to Molecular Dimensions by LifeARC.

ORDERING INFORMATION.

	Pack Size	Description
MD1-116	96 x 10 mL	Morpheus III
MD1-117	96 x 1 mL	Morpheus III HT-96
MD1-118	48 x 100 µL	Hippocrates

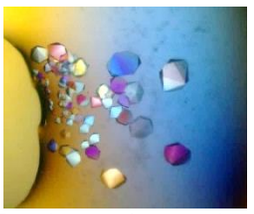
Molecular Dimensions

ACHIEVE MORE.

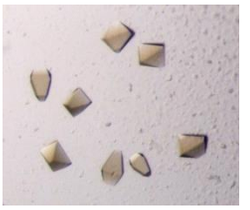
The Morpheus screen family

Maximise your screening potential with the Morpheus® screen family

Rational screens designed *de novo* and optimised against a range of protein samples to avoid bias by Dr Fabrice Gorrec of the MRC-LMB, Cambridge UK.



Protein crystals grown in Morpheus, With thanks to Giles Schneider, Novalix



Polymerase-catalase crystals grown in a Morpheus II condition at the MRC-LMB.

The Morpheus® screen[3]

Ever popular screen that accesses novel chemical space with a range of low molecular weight compounds that are frequently occurring ordered ligands in the PDB.

The Morpheus II screen[1, 2]

This second Morpheus screen includes reagents not usually found in initial screens to expand crystallisation space.

The Morpheus Additive screen

All the reagents employed in the formulations of Morpheus and Morpheus II (including the PDB-derived ligands) as an additive screen to enhance protein stability and solubility.

References

1. Gorrec, F. *Acta Cryst F* **71**: 831-837 (2015). 2. Gorrec, F. *J. Appl. Cryst.* **46**: 795-7 (2013). 3. Gorrec, F. *J. Appl. Cryst.* **42**: 1035-42 (2009).

All screens were developed at the MRC-LMB, Cambridge, UK and exclusively licensed to Molecular Dimensions by LifeARC.

The LMB Crystallisation screen

The only sparse matrix screen aimed specifically at soluble proteins and their complexes. Based on the 1,440 conditions used for screening each of ~2,800 protein samples between 2002-2009 at the MRC-LMB, Cambridge, UK. The conditions in this 96 well screen are based on the 106 resulting published structures.

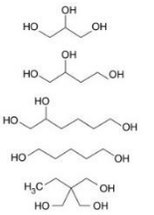
The Angstrom Additive screen

Polyols are great optimisation reagents as they can mediate protein-protein interactions via multiple hydroxyl groups. As well as enhancing protein and lattice stability, every polyol supplied has cryoprotectant properties.

Reference

Gorrec, F. *Drug Discovery Today* **21**: 819-825 (2016).

A complex of endocytic proteins grown in condition B6 of the LMB Crystallisation screen. Thanks to Dr L. Almeida-Souza.



Some of the polyols included in the Angstrom Additive screen.

ORDERING INFORMATION.

	Pack Size	Description
MD1-46	96 x 10 mL	Morpheus
MD1-47	96 x 1 mL	Morpheus HT-96
MD1-91	96 x 10 mL	Morpheus II
MD1-92	96 x 1 mL	Morpheus II HT-96
MD1-93	96 x 100 µL	Morpheus Additive screen
MD1-98	96 x 10 mL	The LMB Crystallisation screen
MD1-99	96 x 1 mL	The LMB Crystallisation screen HT-96
MD1-100	96 x 1 mL	The ANGSTROM Additive HT-96

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