

Molecular  
Dimensions

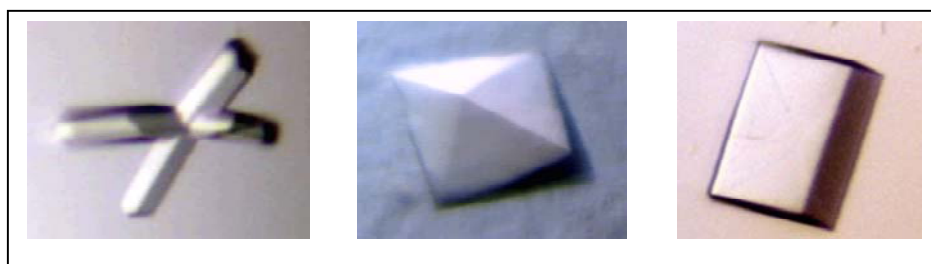
MDL EXCLUSIVE!!!!

# Morpheus



Don't just dream of Crystals....

.... Developed and utilized in the world renowned Laboratory of Molecular Biology, birthplace of modern biological crystallography and home to such luminaries as Kendrew, Perutz, Watson and Crick, *Morpheus*<sup>TM</sup> (Fabrice Gorrec\*) carries on the tradition of been original and dynamic. This unique screen aims to unlock novel chemical space previously inaccessible using conventional screens. In line with the LMB commitment to the transfer of knowledge, the screen contains a range of low molecular weight ligands validated in more than 33,000 PDB structure hits. Morpheus gives you the chance to stop merely dreaming of crystals and awaken to the real thing.

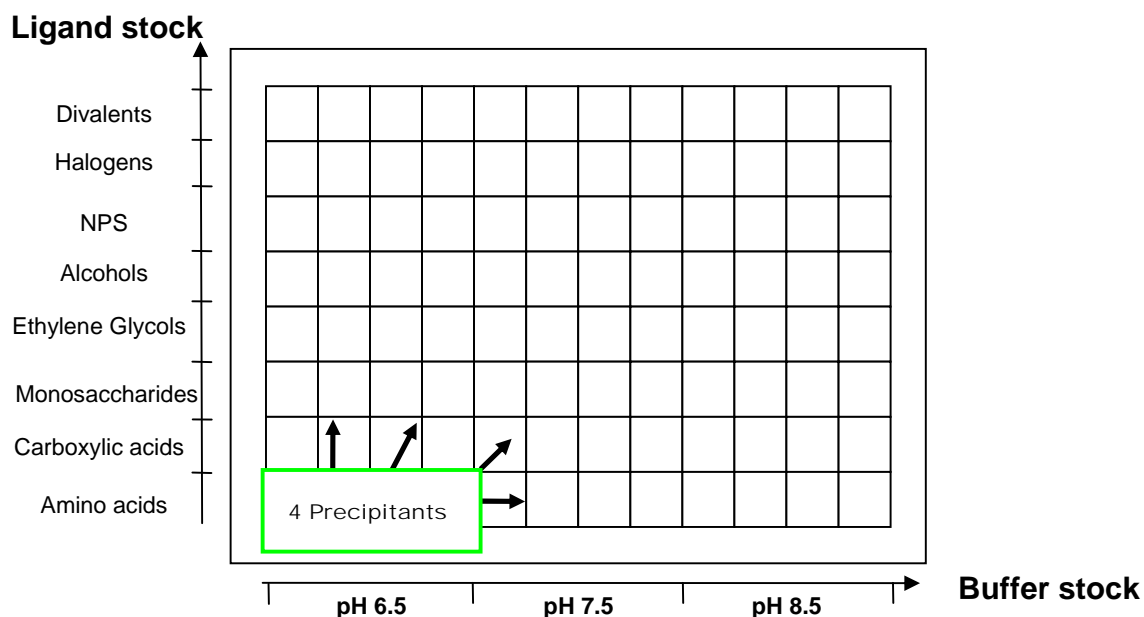


***Examples of successful crystallization with Morpheus***

*(with the permission of P. Ajaybabu, H. Low and A. Berndt).*

## Features of Morpheus:

- Simple and effective 3D grid design covering a range of pH, PEGs and salt additives.
- Targeted incorporation of 49 low molecular weight ligands observed to promote both initial crystal formation and lattice stability.
- Reduced crystal "stress" - all conditions are cryo-protected.
- Derived from extensive data mining of over 33,000 PDB entries.
- Available in both 10ml tube and 96 condition deep well block formats.



*Schematic of the Morpheus™ – a three-dimensional grid screen*

## Screen Design:

**Morpheus** is a three-dimensional grid screen. Each of the eight ligand stocks are systematically tested with four different precipitant stocks and three buffer stocks.

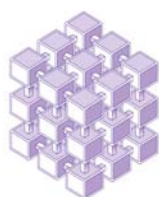
The ligand stocks are grouped into eight families depending on their chemical class (e.g. alcohols, carboxylic acids, etc). The buffer stocks are grouped together according to their pKa's and the nine precipitant stocks make up four stock solutions each including at least one PEG and another precipitant which is also a cryo-protectant.

The low molecular weight of the 49 ligands and the high number of hits in the PBD mean the ligands used in this screen tend to have low specificity but some affinity with the surface of these proteins in general. Even ligands with lowest number of hits are seen with at least five unconnected protein targets.

"King Sleep was father of a thousand sons - indeed a tribe - and of them all, the one the chose was Morpheus", *Metamorphosis – Ovid – 8 A.D.*

\* "The MORPHEUS protein crystallization screen" Fabrice Gorrec (2010) *J. Appl. Cryst.* **42**, 1035-1042.

To order the Morpheus Screen quote product number MD1-46 for 10ml kit or MD1-47 for HT block.



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[www.moleculardimensions.com](http://www.moleculardimensions.com)

