

GM-X25 Program Overview

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Photon Division

X6A SAC Meeting
February 1st, 2013

GM-X25 program

- Started 2008
- Access for X6A users to undulator beamline X25 (... X29)
- Increase productivity
- Small beam (down 20um x 20um)

Undulator beamline X25



Coordinated effort with PXRR (A. Héroux)

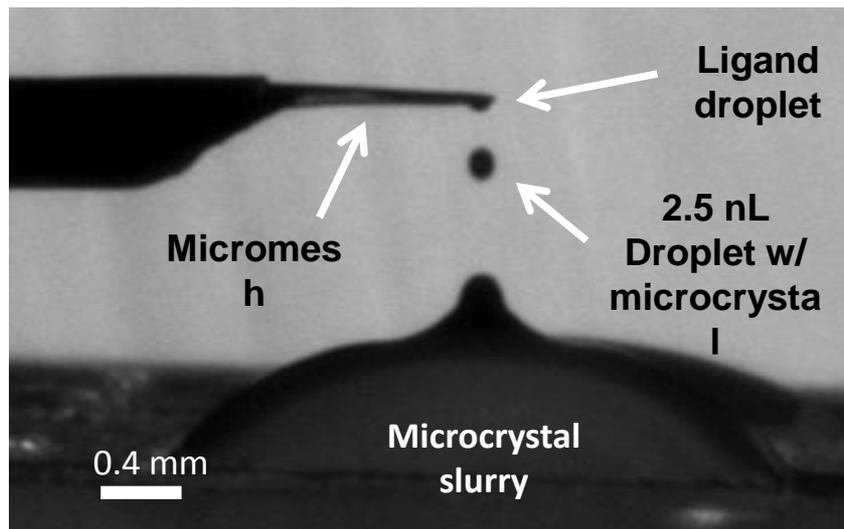
Photon shutter - Computer control



Steve Lamarra

Slurries of microcrystals – Library of chemicals

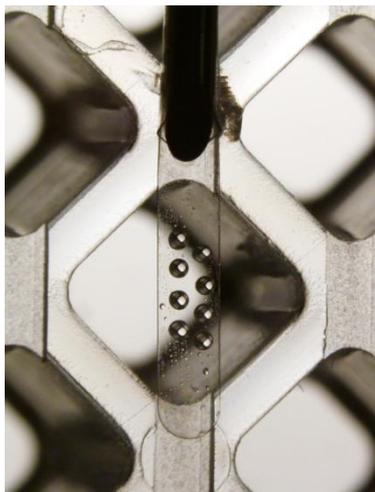
Drop-on-drop ligand soaks



Going Acoustic



~100 quick soak and mount prepared in less than 5 mins



C. Roessler (Soares-Orville-Heroux)

GM-X25 usage statistics

	<u>2012</u>	<u>Total</u>
Groups:	14	22
Visits:	28	120
Total beamtime:	18.1 days	66 days
Hours used / visit	2 to 24	1 to 27
Images collected	201677	505582
Datasets	421	1638
Crystals screened	1365	3929

GM-X25 Access Mechanism

The screenshot shows the X6A website interface. At the top, there is a purple banner with the text "Welcome To X6A Beamline" and a link to "View GM-X25 Schedule". Below this is a calendar for February 2011. The calendar grid shows the days of the week and the dates. Each day has a status indicator (a yellow smiley face) and a text box indicating the availability status and time range. For example, on Tuesday, February 1st, it says "Available From: 08:00:00 To: 18:00:00". On Wednesday, February 2nd, it says "Available From: 08:00:00". On Thursday, February 3rd, it says "Available". On Friday, February 4th, it says "Available". On Saturday, February 5th, it says "Available". On Sunday, February 6th, it says "Available". On Monday, February 7th, it says "Available From: 11:58:59 To: 05:58:59". On Tuesday, February 8th, it says "NLSL Studies From: 08:00:00 To: 11:58:59". On Wednesday, February 9th, it says "NLSL Maintenance From: 08:00:00 To: 11:58:59". On Thursday, February 10th, it says "NLSL Studies From: 08:00:00 To: 11:58:59". On Friday, February 11th, it says "Available". On Saturday, February 12th, it says "Available". On Sunday, February 13th, it says "Available". On Monday, February 14th, it says "Available". On Tuesday, February 15th, it says "Available". On Wednesday, February 16th, it says "Available". On Thursday, February 17th, it says "Available". On Friday, February 18th, it says "Available". On Saturday, February 19th, it says "Available". On Sunday, February 20th, it says "Available". On Monday, February 21st, it says "Available From: 11:58:59 To: 05:58:59". On Tuesday, February 22nd, it says "NLSL Studies From: 08:00:00 To: 11:58:59". On Wednesday, February 23rd, it says "Available From: 08:00:00". On Thursday, February 24th, it says "Available". On Friday, February 25th, it says "Available". On Saturday, February 26th, it says "Available". On Sunday, February 27th, it says "Available". On Monday, February 28th, it says "Available From: 12:00:00 To: 23:00:00". On Tuesday, February 29th, it says "NLSL Template". On Wednesday, February 30th, it says "NLSL Template". On Thursday, February 31st, it says "NLSL Template". On Friday, February 32nd, it says "NLSL Template". On Saturday, February 33rd, it says "NLSL Template". On Sunday, February 34th, it says "NLSL Template".

LEGEND

- Available
- Maintenance
- Unknown
- Pending
- Studies
- Commissioning
- Training
- Commissioning
- Template
- Shutdown
- Holiday
- Unavailable

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National Synchrotron Light Source
8887 25th Avenue, Upton NY 11973
Tel: (631) 344-5336 Fax: (631) 344-3238
E-mail: x6asite@bnl.gov

GM-X25 beamtime request

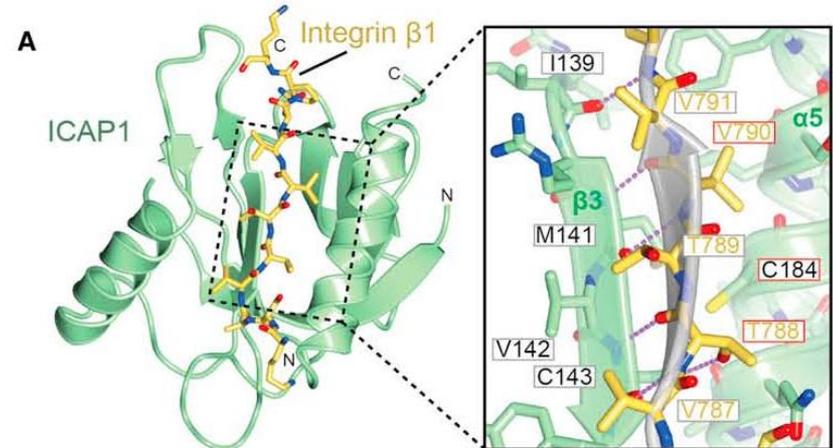
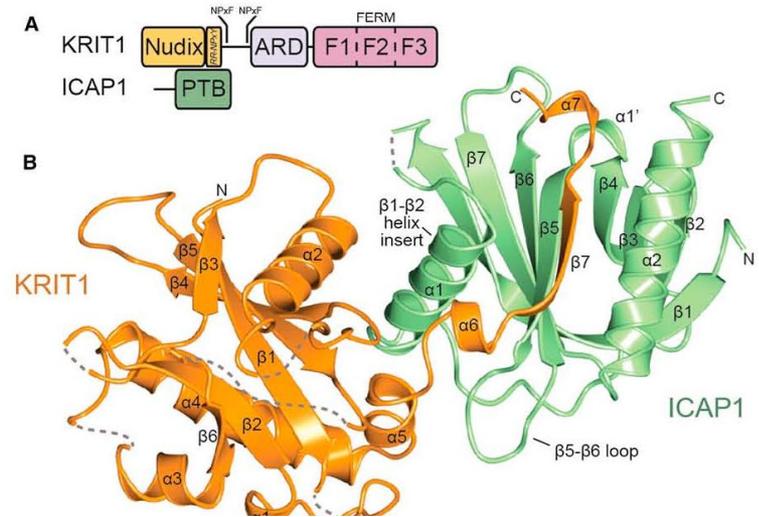
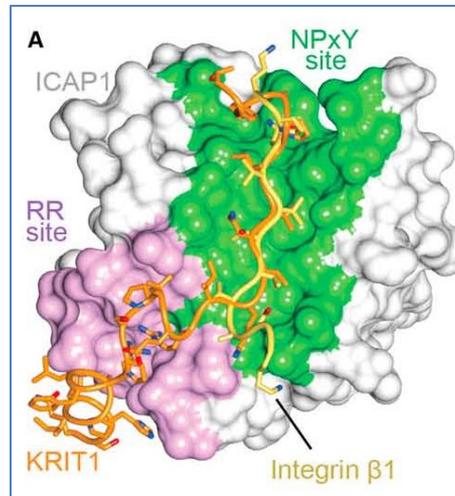
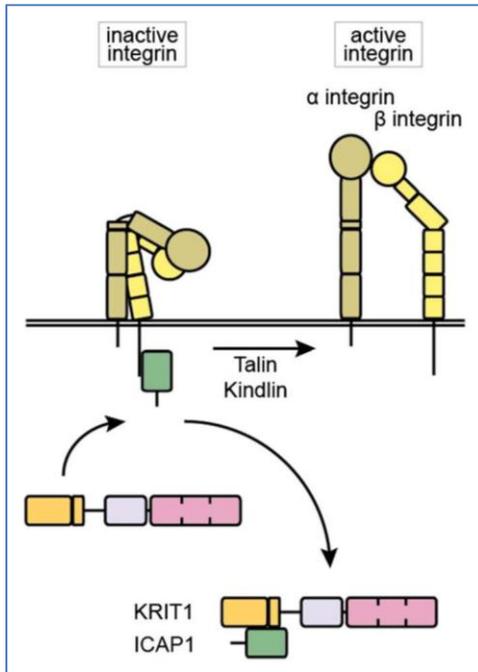
- > 7 days beamtime requested from the X6A website (min 4 hrs)
- < 7 days request sent directly by email (try for >2 hours available)

→ all requests were honored

Cerebral Cavernous Malformations

Mechanism for KRIT1 Release of ICAP1-Mediated Suppression of Integrin Activation. *Mol Cell* 49, 1-11 (2013, Feb 21)

Titus J Boggon (Yale University School of Medicine)

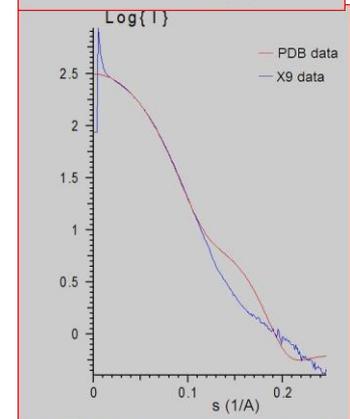
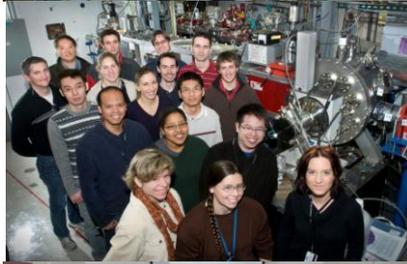
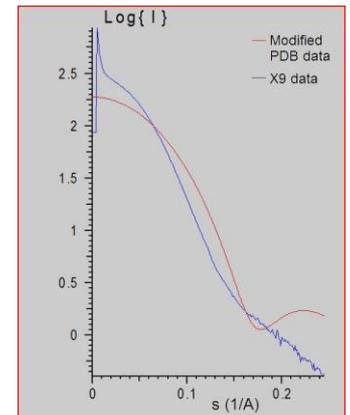


SAXS/WAXS – Beamline X9

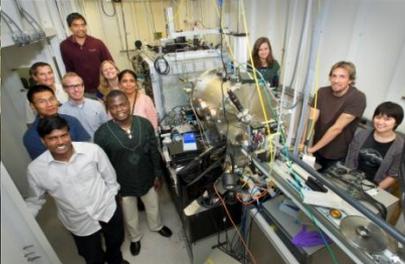
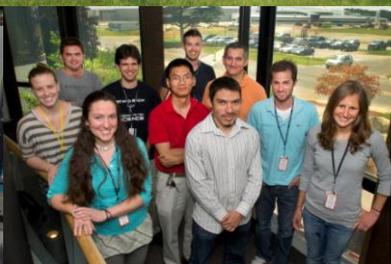


- 10% of X9 beamtime
- Rapid Access mechanism (<12 hours shift)
- >200 users (MX,NMR,SAXS)
- 104 Beamtime requests
- 40 publications

Target 9825a1BCt1p1
PDB 3LKE (related)
Monomer



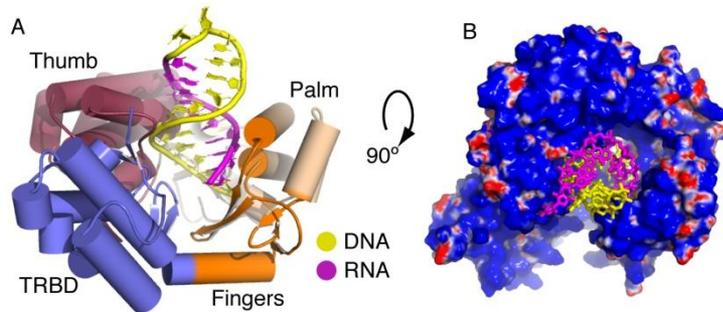
Trimer



→ Secure funding (1.06M) from NIH for a new SAXS/WAXS detector system

Young Scientist Award

Telomerase Structure Paves the Way for New Cancer Therapies



**2012 award to Emmanuel Skordalakes
Margaret C. Etter Early Career Award
American Crystallographic Association**