



	<b>Experiment title:</b> <b>Italian Bag 1: Crystal structure of the Lissencephaly type dimer in complex with PAF-AH <math>\square 2/\square 2</math> homodimer</b>	<b>Experiment number:</b> MX-129
<b>Beamline:</b> ID14-2 ID14-4 ID14-4 ID14-1	<b>Date of experiment:</b> from: 10/07/2003 to: 10/07/2003 from: 14/10/2003 to: 14/10/2003 from: 10/11/2003 to: 10/11/2003 from: 08/02/2004 to: 08/02/2004	<b>Date of report:</b> 24/06/2004
<b>Shifts:</b> 1	<b>Local contact(s):</b>	<i>Received at ESRF:</i>
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### Report:

Correct neuronal migration and positioning during cortical development is essential for proper brain function. Our laboratory is interested in understanding the structural bases of neuronal migration. Recently, we have determined the crystal structure of the Lis1/PAF-AH tetramer and gained insights into the function of Lis1, whose coding *Lis1* gene is mutated in human lissencephaly (smooth brain), a disease which features misplaced cortical neurons and disarrayed cerebral lamination. The mechanism by which Lis1 regulates neuronal migration and positioning remains undetermined. Recently, we obtained crystals of Nudel, the NudE like protein. Nudel positively regulates the activity of cytoplasmic dynein by facilitating the interaction between Lis1 and dynein. Thanks to the data collected at ESRF, we are now in the process of determining the crystal structure of Nudel. Crystals of the Nudel/Lis1 complex are also available but diffract poorly.