

Molecular Crystallography

Our crystallization product line accompanies the researcher through the entire crystallization procedure. Effective solutions are proposed for each stage, e.g. :

Crystallization screening :	selected successful buffers in convenient formats	JBScreen classic
	screening a wide range of pH and various salts and precipitants	JBScreen Basic
	screening hydrophobic proteins	JBScreen Membrane proteins
Crystallization optimization :	refinement of the buffer composition to confine protein aggregation prior to the crystallization set-up	JBS Solubility Kit, JBScreen Detergents, JBScreen Buffer Solutions (single buffers, pH pre-sets)
	modification of protein surface residues to enhance crystallization	JBScreen Plus, JBS Methylation Kit,
Cryo-crystallography :	selected cryoprotectants	JBScreen Cryo, JBScreen Cryo Pro
Phasing :	heavy metal and halogenated nucleotide methods	JBScreen HeavyJBS Halo Kits
Crystallization microplates :	classic hanging-drop crystallization plates	Linbro Plates

Crystallization Screens

The crystallization of biological macromolecules remains a process of trial and error. Nucleation and crystal growth are influenced by the interaction of many variables, such as temperature, pH, precipitant and salt concentration. Testing all possible combinations would be too long and would require enormous amounts of sample.

Our **JBScreen** products are designed for efficient and reliable screening crystallization conditions for proteins, peptides, nucleic acids, macromolecular complexes and water-soluble small molecules. Their broad coverage of crystallization space and proven formulations make JBScreen the top choice for crystallographers worldwide.

- ◆ Contains the most successful macromolecular crystallization conditions obtained over the last 50+ years.
- ◆ Cover 240 buffer conditions
- ◆ Offered in convenient formats including suitable sizes for robot automated and HTS techniques
- ◆ Available in relevant sets of conditions that ease further refinements.

Selection guide

JBScreen Classic kits : to screen 240 prominent crystallization conditions
 JBScreen Basic : to screen a wide range of pH and various salts and precipitants (optimized from the classic sparse matrix method)
 JBScreen Membrane optimized screening for hydrophobic and membrane proteins

Buffer were selected from an extensive data mining effort covering thousands of crystallization conditions from the Biological Macromolecule Crystallization Database¹.

(1) Gilliland *et al.*: "The Biological Macromolecule Crystallization Database: crystallization procedures and strategies" *Acta Cryst. D58* (6-1):916 (2002)

JBScreen Classic Screens

The **JBScreen Classic Kits** (10 kits x 24 conditions each) cover 240 of the most prominent conditions for protein crystallization. JBScreen represents the selected statistically most successful buffers that yielded protein crystals suitable for X-ray diffraction.

The JBScreen buffers are principally ordered by type and concentration of the precipitant. This allows easy extraction of all relevant information and is already a first step to a refinement: Once you get a hit, you immediately see the effects of the neighboring conditions. Subsequent fine tuning of preliminary hits will be much more efficient.

Following convenient formats are available :

JBScreen Classic – bulk	10ml vials
JBScreen Classic – HTS	pre-filled 96 deep well plates
JBScreen Classic Ampoules	sterile filtered 0.7 ml single shots in a vial
JBS refill kits	inexpensive approach to JBScreen



JBScreen Classic - bulk

The **JBScreen bulk Kits** (#1 to 10) contain all 240 solutions of the JBScreen system in sterile 10 ml quantities. These kits are especially designed for users who prefer reservoir solutions that are different from the standard 0.7 ml format, such as labs that use crystallization robots.

JBScreen Classic - ampoules

The **JBScreen ampoule Kits** (#1 to 10) contain the same sets of 24 buffers covering all 240 solutions, but as delivered in 0.7 ml sterile aliquots, with 10 units per kit, for single shots in a vial. The 6x4 format of the units allows a convenient 1:1 setup for 24 (or multiples thereof) well plates. It's *Easy-to-use* - every ampoule and the unit's package have a «coordinate system» (A1 - A6 ... D1 - D6), thus almost certainly eliminating errors.



Alternatively, the JBScreen Mixed kit (#FR0610) contains one single shot of all the 240 buffers.

- Avoid pipetting
- Long Shelf Life
- Reproducibility
- Portability of a full 240 conditions
- Nice price

Tired of pipetting? - Here's the solution! Just break off the ampoule's top and use the buffer aliquot - NO MORE PIPETTING!

Apart from saving you the tedious pipetting, sterile packed aliquots have several other important advantages:

- ◆ JBScreen is always fresh and sterile, AVOIDING CONTAMINATION experienced by the time you use bulk vials.
- ◆ Evaporation of solvent (with the resulting change of the buffer) just won't happen - you will get extremely REPRODUCIBLE SCREENING RESULTS.

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JBScreen Classic refill

The most inexpensive approach to JBScreen

The **JBScreen Refill Kits 1 - 10** contain 24 x 10 sterile aliquots of the JBScreen system buffers, supplied as 10-ampoule blocks, with 0.7 ml per ampoule. The JBScreen Refill Kits are ideal if you are already using our JBScreen Ampoule kits and would like to re-use its packages and 24-ampoule units. Simply break off the ampoules from the blocks and re-fill your JBScreen kits! The JBScreen Refill Kits can also be used "as they come" and provide a low-cost alternative to access to the crystallization conditions of the JBScreen system.

	Classic bulk	Classic ampoules	Refill	Color code
JBScreen Classic 1 (PEG 400 to 3 000 based)	FQ9680 1 Kit	FR0510 1 Kit	AW3720 1 Kit	transparent
JBScreen Classic 2 (PEG 4 000 based)	FQ9700 1 Kit	FR053 1 Kit	AW3730 1 Kit	light green
JBScreen Classic 3 (PEG 4 000 plus based)	FQ9710 1 Kit	FR0540 1 Kit	AW3740 1 Kit	dark green
JBScreen Classic 4 (PEG 5000 MME to 8 000 based)	FQ9720 1 Kit	FR0550 1 Kit	AW3750 1 Kit	light blue
JBScreen Classic 5 (PEG 8000 to 20 000 based)	FQ9730 1 Kit	FR0560 1 Kit	AW3760 1 Kit	dark blue
JBScreen Classic 6 (Ammonium Sulfate based)	FQ9740 1 Kit	FR0570 1 Kit	AW3770 1 Kit	brown
JBScreen Classic 7 (MPD based)	FQ9750 1 Kit	FR0580 1 Kit	AW3780 1 Kit	yellow
JBScreen Classic 8 (MPD/Alcohol based)	FQ9760 1 Kit	FR0590 1 Kit	AW3790 1 Kit	orange
JBScreen Classic 9 (Alcohol/Salt based)	FQ9770 1 Kit	FR0600 1 Kit	AW3800 1 Kit	red-orange
JBScreen Classic 10 (Salt based)	FQ9690 1 Kit	FR0520 1 Kit	AW3810 1 Kit	red
JBScreen sampler kit		FR06101 Kit		



JBScreen Classic - HTS

In pre-filled 96 deep well plates

JBScreen HTS contains the formulations of the JBScreen system, adapted to fit the 96-well format. **JBScreen HTS** is designed for high throughput crystallization applications using multi-channel pipets or crystallization robots.

Each **JBScreen HTS** 96-well masterblock is pre-filled with 96 sterile crystallization buffers, with either 1.0 ml (S size) or 1.7 ml (L size) per well and is sealed with indexed cap mats.

JBScreen HTS will allow you to **combine high-throughput crystallization techniques with the most efficient and logical screen available !**

	(1.0 ml per well)		(1.7 ml per well)	
JBScreen Classic HTS I S (PEG based)	FQ9810	1 Block	AW3820	1 Block
JBScreen Classic HTS II S (Ammonium Sulfate, MPD, Alcohol and Salt based)	FQ9820	1 Block	AW3830	1 Block





JBScreen Basic Screens

Unique reagent mixtures for screening a wide range of pH and various salts and precipitants

Despite intensive researches, the crystallization of biological macromolecules remains a process of trial and error. Nucleation and crystal growth are influenced by the interaction of many variables, such as temperature, pH, precipitant and salt concentration.

Testing all possible combinations would be too long and would require enormous amounts of sample. One approach to find suitable crystallization conditions is the Sparse-Matrix method. This method involves screening with an intentional bias towards conditions, which have been proven successful in the crystallization of biological macromolecules.

In 1991, Jancarik and Kim published 50 conditions, which were derived from previously crystallized proteins [1]. These and other conditions constitute the basis of the **JBScreen Basic** system [1,2]. However, JBScreen Basic is designed to fit the 24-well plate format and like in all other JBScreen crystallization kits, we abstained from the use of cacodylate buffers and replaced them with MES.

JBScreen Basic system contains 96 unique reagent mixtures for screening a wide range of pH and various salts and precipitants. Buffer conditions cover pH 4.6 to 8.5, including one or 2 precipitants (Ethylene Glycol, Glycerol, 1,6-Hexanediol, 2-Methyl-2,4-pentanediol, Ethylene Imine Polymer, PEG400, 550 MME, 1000, 1500, 2000MME, Ammonium Sulfate), a buffer (Tris, Sodium acetate, HEPES, Bicine, MES), and additives. Please inquire for detailed informations. Each JBScreen Basic kit contains 24 unique, sterile filtered reagents, supplied in 10 ml aliquots. For high-throughput users, we offer all 96 conditions in pre-filled deep well blocks.

Description	Cat.#	Qty
JBScreen Basic 1	BP2380	1 Kit
JBScreen Basic 2	BP2390	1 Kit
JBScreen Basic 3	BP2400	1 Kit
JBScreen Basic 4	BP2411	1 Kit
JBScreen Basic HTS Small	BP2430	1 Block (1.0 ml per well)
JBScreen Basic HTS Large	BP2420	1 Block (1.7 ml per well)

JBScreen Membrane proteins Screens

Cover 72 of the most successful buffers for crystallization of membrane proteins

The **JBScreen Membrane** crystallization buffers are principally ordered by type and concentration of the precipitant. Like in case of the «classic» JBScreen system, this allows easy extraction of all relevant information and is already a first step to a refinement: Once you get a hit, you immediately see the effects of the neighboring conditions. Subsequent fine tuning of preliminary hits will be much more efficient.

Each kit contains 24 sterile solutions, 10 ml each.

Description	Cat.#	Qty
JBScreen Membrane 1 (PEG 400 to PEG 2 000 MME based)	FQ9830	1 Kit
JBScreen Membrane 2 (PEG 2 000 MME to PEG 10 000 based)	FQ9840	1 Kit
JBScreen Membrane 3 (Ammonium Sulfate, Alcohol and Salt based)	FQ9850	1 Kit
JBScreen Membrane HTS Small (72 reagents of JBScreen Membrane 1- 3)	BW7441 CS-305S	1 Block (1.0 ml per well)
JBScreen Membrane HTS Large (72 reagents of JBScreen Membrane 1- 3)	BW7451 CS-305L	1 Block (1.7 ml per well)



Please inquire for trial offer with kits FQ9830 + FQ9840 + FQ9850 or JBScreen Membrane kits + JBScreen Detergent kits

Cryo Screens

The employment of cryo-techniques is not only used to carefully preserve and store crystals for later analysis but also to reduce radiation damage, caused by intense x-ray sources, since the diffusion of active radicals is decelerated. Therefore, cryomethods allow crystallographers to work with smaller crystals, prolongs crystal lifetime, and facilitates straightforward data collection (cryo-cooled crystals can be stored indefinitely without losing diffraction quality).

However, the use of cryoprotectants is crucial to prevent crystals from cracking and to protect them from the damaging effects of ice formation during the cryo-cooling process. The appropriate cryoprotectant will guarantee that the thin layer of mother liquor, which surrounds the protein, will form an amorphous glass without the formation of water ice. Thus, x-ray data, free of 'ice rings', can be collected.

JBScreen Cryo

JBScreen Cryo is an advanced screen for cryo-conditions. The four JBScreen Cryo kits contain the 96 most successful crystallization conditions proven to be suitable for cryo-crystallography. Just like in the case of the classic JBScreen system, the formulations of JBScreen Cryo were determined by extensive data mining.

JBScreen Cryo is available in the standard 10 ml bulk format or in pre-filled 96-deep well plates - JBScreen Cryo HTS.

JBScreen Cryo can be used for standard vapor diffusion setups to determine conditions suitable for cryo crystallography "from scratch" or to find a suitable cryo condition when crystals were grown with a standard (non-cryo) screen.

Description	Cat.#	Qty
JBScreen Cryo 1	BP2450	1 Kit
JBScreen Cryo 2	BP2460	1 Kit
JBScreen Cryo 3	BP2470	1 Kit
JBScreen Cryo 4	BP2480	1 Kit
JBScreen Cryo HTS S (1.0 ml per well)	BP2500	1 Block
JBScreen Cryo HTS L (1.7 ml per well)	BP2490	1 Block

JBScreen Cryo Pro

JBScreen Cryo Pro is the most convenient tool on the market for producing effective cryo-protectants from your crystallization reservoir solution. The kit contains 12 different compounds, divided into sugar/aminoacid-based cryo-protectants, alcohol-based cryo-protectants, and an oil-based cryo-protectant.

Description	Cat.#	Qty
JBScreen Cryo Pro	BP2510	1 Kit

Crystallization Optimization

JBS Solubility Kit

Optimize solubility of your protein sample prior to crystallization trials

The **JBS Solubility Kit** is a pre-crystallization screen to improve the composition of the initial protein buffer solution prior to performing crystallization set-ups¹. Since the highly complex properties of proteins are dependent on their environment, buffer solutions play an important role, i.e. influencing the solubility and the aggregation behavior of the protein sample.

Studies have shown that protein aggregation may inhibit nucleation and crystal growth. Therefore, the JBS Solubility Kit has been developed to investigate protein samples towards their homogeneity and monodispersity prior to crystallization trials, employing hanging drop vapor diffusion experiments combined with dynamic light scattering.

The JBS Solubility Kit contains a set of 24 buffer solutions at different pH-values for setting up hanging drop vapor diffusion experiments in order to monitor the aggregation and precipitation of the protein sample, and a set of 14 additives used for further optimization employing dynamic light scattering.

1 - Jancarik *et al.*: "Optimum solubility (OS) screening: an efficient method to optimize buffer conditions for homogeneity and crystallization of proteins" *Acta Cryst. D60*:1670 (2004)

Description	Cat.#	Qty
JBS Solubility Kit	BP2520	1 kit





JBScreen Plus

Additive screens that focus on small molecules which interfere with sample-sample and sample-solvent interactions, mainly based on chaotropic and kosmotropic properties

To select the formulations of the **JBScreen Plus** solutions, numerous reports on the use of additives to improve the quality and size of macromolecular crystals have been evaluated. These additives are commonly small molecules, which seem to affect sample-sample and sample-solvent interactions, as well as the solvent structure itself.

JBScreen Plus comprises 5 kits, including *kosmotropic* (structure-stabilizing) and *chaotropic* (structure-disturbing) additives, salts, volatile and non-volatile organics and other compounds. Each kit contains 24 different additives, supplied in ready-made aliquots (100 µl each, except the JBScreen Plus Volatiles kit, containing 1 ml each), with adjusted concentration and sterile filtered. All solutions come in tightly closing glass vials that will keep them fresh and sterile.

JBScreen Plus solutions are most useful in the optimization of preliminary crystallization conditions, where specific interactions between the additives and the biological macromolecule may assist in the initial crystallization of the sample and may help to improve the size and diffraction quality of the crystals.

Each kit contains 24 different additives, supplied in ready-made aliquots (100 µl each, except the JBScreen Plus Volatiles kit, containing 1 ml each), with adjusted concentration and sterile filtered. Please inquire for detailed informations. All solutions come in tightly closing glass vials that will keep them fresh and sterile.

Description	Cat.#	Qty
JBScreen Plus Kosmotropic (structure-stabilizing additives: zwitterions, polyalcohols, kosmotropic cations and anions)	BP2530	1 Kit
JBScreen Plus Chaotropic (structure-disturbing additives: non-ionic, chaotropic cations and anions)	BP2540	1 Kit
JBScreen Plus Salts (Lithium ammonium, sulfate and multivalent cations salts)	BP2550	1 Kit
JBScreen Plus Additives (Linker, organic hydrophilic polymers, sugars, reducing agents, chelator, amphiphilic additives)	BP2560	1 Kit
JBScreen Plus Volatiles (alcohols, non-ionic chaotropes, organic volatile additives, at 10x recommended drop concentration)	BP2570	1 Kit

JBScreen Detergents

Advanced detergent screens for solubilization and crystallization of hydrophobic and membrane proteins

The **JBScreen Detergents Kits 1 and 2** cover all detergents that have been successfully used for the crystallization of membrane proteins. Each kit contains 12 detergents, supplied as stock solutions at 5 or 10 times the reported CMC (Critical Micellar Concentration), with 100 or 200 µl per compound. Please inquire for detailed informations.

The JBScreen Detergents Kits are ideal supplements for the JBScreen Membrane screens. This combination will enable you to screen a broad range of crystallization conditions, while concentrating on the most successful detergents - and therefore making crystallization screening of membrane proteins much more efficient and less time consuming.

Description	Cat.#	Qty
JBScreen Detergents 1 (12 detergents with CMC ranging from 0.06 to 7.0 mM)	FQ9780	1 Kit
JBScreen Detergents 2 (12 detergents with CMC ranging from 7.1 to 330 mM)	FQ9790	1 Kit

JBS Methylation Kit

The 24-hour approach to protein surface engineering - modify crystal contacts by reductive methylation of Lysine residues

Proteins surface engineering can be a powerful technique for dealing with proteins that yield no or poorly diffracting crystals. Here we provide a simple kit for the **selective methylation of lysine residues**. The method does not require laborious cloning/expression/purification but chemically replaces the protons of the amino group of all lysines of the protein with methyl groups. The result is a surface-engineered protein within 24 hours ready for crystallization.

Each **JBScreen Methylation Kit** contains all necessary reagents for six methylation experiments. All components are provided ready-to-use, so just follow the manual step-by-step. No background in chemistry is necessary

Description	Cat.#	Qty
JBS Methylation Kit	BP2580	1 kit

JBScreen Single Stocks - Buffer Solutions

The fastest way for optimization and fine-tuning of initial hits

Single stock solutions of the **JBScreen** components, i.e. buffers, salts and precipitants, are ideal for the optimization of your crystallization conditions. Using the same chemicals as utilized in the JBScreen ensures higher reproducibility of your experiments. **JBScreen Single Stocks** are ready for use: the concentration is adjusted and they are sterile filtered.

Description	Cat.#	Qty
Sodium Acetate pH 4.6, 1 M	BP2590	50 ml
tri-Sodium Citrate pH 5.6, 1 M	BP2600	50 ml
Na-MES pH 6.5, 1 M	BP2610	50 ml
Na-HEPES pH 7.5, 1 M	BP2620	50 ml
Imidazole-HCl pH 8.0, 1 M	BP2630	50 ml
Tris-HCl pH 8.5, 1 M	BP2640	50 ml

JBScreen Buffer Kits

pH optimization made easy - the most prominent buffers with pre-adjusted pH and sterile filtered

JBScreen Buffer Kits are designed for convenient reproduction and optimization of crystallization conditions. The solutions can be used to reformulate conditions of the JBScreen family, e.g. JBScreen Classic, JBScreen Basic, JBScreen Cryo, and other commercially available crystallization screens.

Furthermore, JBScreen Buffer Kits can be employed for the straightforward preparation of custom screen solutions for the refinement and optimization of initial crystallization conditions. The JBScreen Buffer Kit formulations will help to save time preparing accurate and high-quality reagents for the reproducible production of single protein crystals.

The JBScreen Buffer Kits contain ready-made buffer solutions with preset pH values. Each buffer is provided as a 1.0 M stock solution and supplied in 10 ml volumes.

Description	pH	Cat.#	Qty
JBScreen Buffer Kit Sodium Acetate	pH 3.5 – 5.6	BP2650	1 Kit
JBScreen Buffer Kit Sodium Citrate	pH 3.7 – 6.0	BP2660	1 Kit
JBScreen Buffer Kit MES	pH 5.6 – 6.7	BP2670	1 Kit
JBScreen Buffer Kit HEPES	pH 6.8 – 8.2	BP2680	1 Kit
JBScreen Buffer Kit Tris-HCl	pH 7.1 – 9.0	BP2690	1 Kit

Phasing

In contrast to the amplitude, the phase of scattered x-rays cannot be measured directly. Phase determination is one of the most difficult tasks in macromolecular crystallography and known as the "phase problem". Multiple isomorphous replacement (MIR), multiple wavelength anomalous dispersion (MAD) and single wavelength anomalous dispersion (SAD) are powerful techniques for initial phase determination of novel macromolecular crystal structures. These methods require the incorporation of heavy atoms into the crystal lattice. However, after crystallization, finding such derivatives is the second major bottle neck in the determination of the 3D structure of bio-macromolecules. Most labeling procedures focus on the protein itself in a «trial and error» fashion.

To this purpose, Interchim provides great tools:

- ◆ **JBScreen Heavy**, which shortens the heavy-atom derivatives search
- ◆ **JBS Halo-kits**, which provides an alternative method (rational incorporation) useful for a large number of physiologically relevant enzymes

JBScreen Heavy

Efficient screening for suitable heavy-atom derivatives of protein crystals



The search for suitable heavy-atom derivatives is often a tedious process and usually requires screening of a broad range of heavy atoms. The **JBScreen Heavy** kit will shorten this process: It contains a collection of 24 of the most successful heavy-atom compounds, selected from data mining of heavy-atom derivatized protein crystals, which have been successfully employed in structure determination of biological macromolecules. Each of the 24 heavy-atom compounds is supplied in three identical solid aliquots; enough material for the preparation of 3x100 µl of a 100 mM stock solution. This will avoid tedious calculating and weighing - simply add 100 µl of water or buffer (or more, for a more diluted solution) to the individual aliquot, and you are ready to prepare your set-ups.

Description	Cat.#	Qty
JBScreen Heavy	FQ9800	1 kit

JBS Halo Kits

Screen halogenated ATP or GTP derivatives all in parallel

- ◆ Don't waste time and crystals with a conventional «trial and error» heavy atom screen
- ◆ Get all the material you need for MIR or MAD experiments from one 24 well tray!

The search for suitable heavy-atom derivatives can be quite tedious and binding of heavy atoms often results in disrupting the crystal lattice. Halogenated ATP and GTP analogs however, provide an alternative method that allows rational incorporation of heavy atoms into a large number of physiologically relevant enzymes:

- In the human genome alone, estimated 5 000 to 10 000 proteins interact with ATP or GTP, e.g. protein and nucleotide kinases, motor proteins, chaperones or the superfamily of GTPases, respectively.
- The incorporation of iodine or bromine allows MIR or MAD phasing for proteins with molecular weights of at least up to 50 KDa. Importantly, for MIR experiments, such derivatives are likely to be somorphous to the native crystals
- The binding kinetics of 2'-halogenated ATP analogs to most enzymes so far investigated (including myosin, creatine kinase, hexokinase, pyruvate kinase and UMP/CMP kinase) are similar to those of non-substituted ATP.
- The complexes of 2'-halogenated GTP analogs with the GTPases p21ras or Rab5 have dissociation constants well suitable for crystallization.
- Several proteins including kinesin, non-claret disjunctional protein and TMP kinase have been



Co-crystals of human TMP-kinase and 2-Br-ADP/ATP

successfully crystallized with 2'-halogenated analogs.

Description	Cat.#	Qty
JBS Halo-ATP Kit	FQ8430	1 kit
Contains 12 halogenated Adenosine nucleotides (50 units ⁻ as lyophilized Sodium salts): 2'-Iodo-ADP, 2'-Iodo-ATP, 2'-Iodo-AppNHp (2'-Iodo-AMPPNP), 2'-Bromo-ADP, 2'-Bromo-ATP, 2'-Bromo-AppNHp (2'-Bromo-AMPPNP), 8-Iodo-ADP, 8-Iodo-ATP, 8-Iodo-AppNHp (8-Iodo-AMPPNP), 8-Bromo-ADP, 8-Bromo-ATP, 8-Bromo-AppNHp (8-Bromo-AMPPNP)		
JBS Halo-GTP Kit	FQ8440	1 kit
Contains 6 halogenated Guanosine nucleotides (50 units ⁻ as lyophilized sodium salts): 8-Iodo-GDP, 8-Iodo-GTP, 8-Iodo-GppNHp (8-Iodo-GMPPNP), 8-Bromo-GDP, 8-Bromo-GTP, 8-Bromo-GppNHp (8-Bromo-GMPPNP)		

1 unit = 1 µl of a 10 mM sol.

Related products : Halogenated nucleotides

Halogenated nucleotide	Cat.#	Qty	Cat.#	Qty
2'I-ADP	FQ4550	30 Units	FQ4551	150 Units
2'Br-ADP	FQ4530	30 Units	FQ4531	150 Units
8I-ADP	FQ2690	50 Units	FQ2691	250 Units
8Br-ADP	FQ2251	100 Units	FQ2250	500 Units
2'I-ATP	FQ4560	30 Units	FQ4561	150 Units
2'Br-ATP	FQ4540	30 Units	FQ4541	150 Units
8I-ATP	FQ2700	50 Units	FQ2701	250 Units
8Br-ATP	FQ2261	100 Units	FQ2260	500 Units
2'I-AppNHp (2'I-AMPPNP)	FQ5260	20 Units	FQ5261	100 Units
2'Br-AppNHp (2'Br-AMPPNP)	FQ5250	20 Units	FQ5251	100 Units
8I-AppNHp (8I-AMPPNP)	FQ5500	20 Units	FQ5501	100 Units
8Br-AppNHp (8Br-AMPPNP)	FQ5480	20 Units	FQ5481	100 Units
8Br-cAMP	FQ2651	10 mg	FQ2650	50 mg
8Br-dATP	FQ2660	50 Units	FQ2661	250 Units

Crystallization Plates

Linbro plates

The classic hanging-drop crystallization plates

The standard 24-well plate for hanging-drop crystallizations:

- ◆ Made of optically clear polystyrene.
- ◆ Wells are labeled by lettered rows A – D and numbered columns 1 – 6.
- ◆ Wells can be sealed with 22 mm circular cover slides.
- ◆ Each plate is individually sealed in a sterile bag.



Description	Cat.#	Qty
Linbro Plate	FR0721	10 Units
	FR0720	50 Units

Lab Ware & Accessories

Cover Slides

Unsiliconized and siliconized cover slides for hanging drop, sitting drop or sandwich drop set ups

Circular cover slides, 22 mm diameter, with siliconized or unsiliconized surface. For hanging-drop, sitting-drop and sandwich-drop crystallization.

Description	Cat.#	Qty
Circular cover slides, not siliconized	FR0680	100 (1 pack)
	FR1020	10 packs of 100
Circular cover slides, siliconized	FR0690	100 (1 pack)
	FR1030	10 packs of 100



Tape and Grease

Sealants for macromolecular crystallization set ups : sealing tape for sitting drop, and grease for the hanging drop technique

Description	Cat.#	Qty
Manco™ Crystal Clear Sealing Tape, 2" wide	FR0700	1 roll (60 m)
Manco™ Crystal Clear Sealing Tape, 4" wide	FR0730	1 roll (50 m)
Bayer Silicon Grease	FR0750	1 Tube (35 g)

Chemical and heat resistant. Medium viscosity.

