



Product Guide 2007

Novexin Ltd

Innovators of Protein Technologies

Highlights

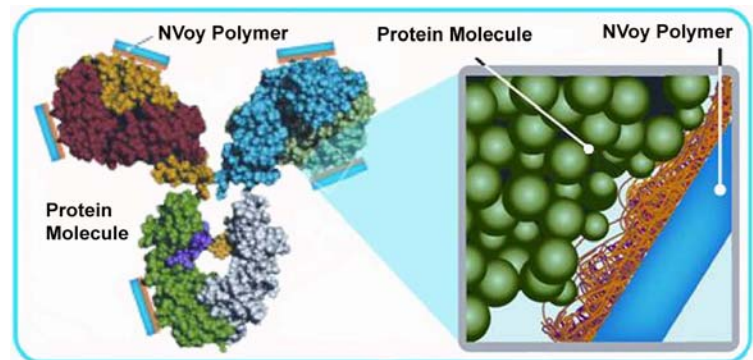
- *NVoy Technology Common Uses*
- *Product updates*
- *Contract Protein Services*
- *Bulk Reagents*



About Novexin Ltd

Novexin was founded in 2003 by two biochemical engineers from the University of Cambridge, Dr Daniel Jones and Dr Heikki Lanckriet who recognised the problems in producing high quality protein products. To resolve this they devised a radical new approach to circumvent the problems using a sugar based protein protection system to allow the manipulation of proteins in a reversible manner.

Novexin's main product range is based on this patented technology - NVoy technology. NVoy can optimize protein production by removing common problems such as , aggregation, instability and reduced solubility, refolding errors, providing an elegant and easy to use system ideal for both industrial and research applications.



NVoy polymer — Your protein protection solution

Novexin's product range also contains protein detection and quantitation products ideal for overcoming problems such as over-stained gels and reagent sensitivity to detergents interfering with protein measurements.

In addition, Novexin has a contract research service which offers fee-for-services in the area of bioprocessing. This service is ideal for customers with problem proteins who are looking for assistance with protein purification, stabilization and refolding . Our extensive experience can save costs and time by efficiently generating a protocol, target protein or SOP to match your specific criteria.

For further information please check out our website at www.novexin.com or call us at +44 1223 496 500 where one of our technical advisors will be on hand to assist you with your enquiry.



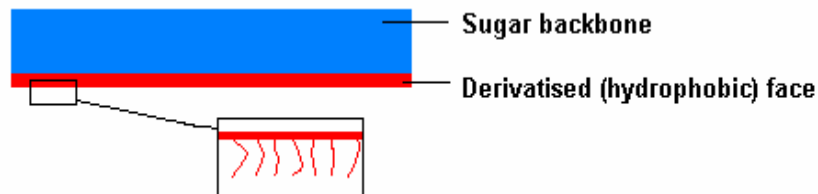
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NVoy Polymers

NVoy polymers are linear highly amphipathic carbohydrate polymers.

They are uncharged molecules of around 5kD which associate at multiple points with the hydrophobic regions of proteins in a dynamic fashion to form reversible complexes.



Key Aspects of NVoy Polymers

Features

- Linear poly fructose backbone
- Uncharged molecule
- Chemically enhanced amphipathicity
- Non-toxic
- Not animal derived
- Not optically active
- UV transparent

Benefits

- UV transparent
- Associates with hydrophobic patches
- Easily dissociated from proteins
- Does not interfere with analytical techniques



NVoy Polymer Common Uses

NVoy polymers can be used in many areas of protein research including stabilisation, purification, analysis, crystallisation and refolding. Below are examples of NVoy polymers most common uses:

Protein Stabilisation

- Maintains protein activity over several freeze/thaw cycles
- Prolongs storage at 4°C for unstable proteins
- Maintains solubility of fusion proteins after “tag” is removed
- Allows stable formulation of protein or antibody for immobilisation + conjugation
- Maintains soluble proteins that usually require ligand to be present
- Increases concentration of proteins that would otherwise aggregate

Protein Purification

- Removes endotoxins
- Minimises protein losses
- Improves purification strategy
- Assists with obtaining cleaner protein preparations

Protein Analysis

- Does not interfere with structural characterisation techniques such as mass spectrometry, crystallisation, nuclear magnetic resonance and circular dichroism
- Used for high throughput screening (HTS) assays keeping proteins soluble and reducing non-specific binding
- Provides an ease to remove replacement for detergents/ carrier proteins

Protein Crystallisation

- Allows controllable crystal growth
- Assists in concentrating and maintaining high protein concentration without the need for additional additives
- Solubilises and stabilises protein for longer time periods

Protein Refolding

- Simple, effective and generic refolding technique
- Works with higher protein concentrations

Protein Formulation

- Novexin is involved with several collaborations investigating the benefits of polymer in protein formulation



Contract Protein Services

Novexin offers bespoke, cost-effective solutions for complex protein processing and production challenges.

We will use our extensive expertise and experience to help you develop a solution to your problem and then uniquely, you may:

- do additional work/scale-up processes in Novexin's labs
- transfer all methodology to your own lab
- transfer all methodology to a partner lab/CMO of your choice

Services Offered:

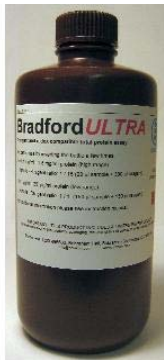
- **Analyticals**
Often it is impossible to obtain the analytical data you require for your protein when certain molecules (e.g. detergents, arginine, NDSB's) are used, but without these molecules present your protein cannot be kept soluble at the right concentration for your research. NVoy polymers solve this problem as they can replace additives and detergents used to keep proteins happy in solution and yet they do not interfere with common analytical and structural assays.
- **Purification**
We can save you time, money and trouble by developing a new or optimising and improving an established purification strategy. We'll simplify the procedure and eliminate unnecessary protein losses before passing your protein back in a suitable form at the concentration you require.
- **Stabilisation**
The inherent characteristics of NVoy polymers allows us to stabilise your proteins and deliver them back to you at your specified concentration – you may also opt to keep the protein at 4°C instead of freeze/thawing or lyophilising (though our technology offers benefits for these techniques also).
- **Scale-Up**
NVoy technology gives the same results whether you're producing 1mg or 1kg of protein. Transfer of protocols is seamless from bench to production scale and we will work on your project with you to produce proteins for pre-clinical trials, diagnostics, HTS, further characterisation or production. The up-scaled protein production can be completed by Novexin or we can transfer the fully optimised protocol back to your own lab or the CMO of your choice.
- **Turnkey Project**
If you wish to outsource a whole project, Expression through to Pure Protein, or certain parts of your project, please contact us to discuss your needs and find out how and where we can help.
- **Refolding**
Optimise, quickly and efficiently, refolding procedures either *de novo* or from an existing protocol which needs improvement. Also, NVoy technology uses no common additives due to its proprietary polymers which offers the ability to develop patent busting procedures for the production of proteins when the refolding procedure has been patented.

Please contact us for individual quotes.



Product Range

Protein Detection and Quantitation Products



Bradford ULTRA

Designed as a ready to use Coomassie®-binding, colorimetric method for total protein quantitation in environments containing up to 1% detergent.

Product Code: BFU05L

Product Description: Bradford ULTRA (500ml)

Priced: per Bottle

Detergent compatible Coomassie based protein quantitation method.



InstantBlue

InstantBlue is a ready-to-use proprietary Coomassie® stain that is optimal for obtaining well defined protein bands in a single step. Specially formulated for ultra-fast, sensitive and safe detection of proteins, staining takes minutes without the need to wash, fix, microwave or destain. Benefits include high sensitivity (approximately 5-25ng of protein per band), low background staining and non toxic formulation.

Product Code: ISB1L

Product Description: Instant Blue (1L)

Priced per Bottle

Designed as a ready to use protein gel stain, InstantBlue provides rapid, sensitive and safe staining - in a single step.

Protein Protection Products

Stabil-PAC is an alternative to the use of detergents, fusion proteins, arginine, chaperones and a range of other common additives employed to increase protein solubility and enable the handling of proteins in solution.

Each kit contains proprietary NV polymers designed to increase the solubility and stability of proteins whilst preventing aggregation and reducing non-specific binding. Beneficial impacts can be seen in many areas of protein research including stabilisation, purification, analysis and crystallisation.

Stabil P.A.C.

Product Code: STP

Product Description: Stabil-PAC

Priced per kit

Capacity: 12 mg protein



Stabil P.A.C. MAXI (New)

Product Code: STP-MX

**Product Description: Stabil-PAC
MAXI**

Priced per kit

Capacity: 48 mg protein



4x more reagent than Stabil PAC.

Product Update:

Stabil P.A.C. now offers better value for money with the pack size increasing from 2mgs to 12 mgs.



Protein Refolding Products

Novexin offers a range of protein refolding kits that provide a simple method for refolding target proteins without the need to screen multiple refolding conditions.

- Fast Yes/No answer on refolding success
- No wasted time screening large numbers of refolding conditions
- Improved yields and higher protein concentrations refolded

Refold SK

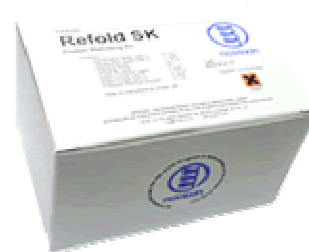
Product Code: RSK

Product Description: REFOLD SK

Priced per kit

Capacity: 5 mg protein

Our starter protein refolding kit uses NV polymer, designed to work on the widest possible range of proteins.



Refold Master (new)

Product Code: RM20

Product Description: Refold Master

Priced per kit

The Refold Master provides superior performance and handles more protein than our starter kit.



Product Update:

Refold SK now offers better value for money with a pack size increasing from 2.5mgs to 5mgs. The Refold Master range has changed, we no longer have acidic, basic and his tag kits of varying sizes. These have been replaced by one generic kit (RM20) providing a better all round cover for customers.

Bulk Reagents

At Novexin we are aware that our standard product range is not set for commercial usage. However, we do cater for commercial needs, all our reagents are available for bulk purchase. For a quote please contact us directly stating your requirements, we will get back to you as soon as possible with pricing and a delivery time frame.

NVoy Polymer Packs (new)

To use NV polymer without the necessity of purchasing kits we offer a range of bulk polymer quantities from a capacity of 1g protein upwards.

Please note our standard larger volumes of NV polymers are 5g, 50g, 500g and 5Kg.

A commercial licence is also available when proteins are due to go into small or large scale production for the manufacture of proteins for use in Clinical trials. Each licence will be discussed on an individual basis.

NVoy Polymer Pack — Starter size

Product Code: NNP

Product Description: NVoy polymer packs

Priced per kit

Capacity: 1g protein

5 grams of NV polymer plus release agent for customers working with larger amounts of proteins.



Bulk Reagents for protein detection & quantitation

We can provide bulk quotes of both InstantBlue and Bradford ULTRA. Please be aware we ship bulk reagents for these products in multiples of 6 bottles.



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Innovators of Protein Technologies

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