



Product Catalog


Leading innovator, producer and provider of monodisperse
discrete peg (dPEG[®]) derivatives

QUANTA BIODESIGN
L I M I T E D

Fax your orders to 614 760-9781 or **NEW:** Order online at www.quantabiodesign.com

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Last update 7/10

 uanta BioDesign, Ltd. was founded in March, 1999 in Powell, Ohio by **Paul D. Davis, Ph.D.** for the purpose of developing and commercializing an extensive line of products for companies involved in drug discovery and diagnostic development programs. These products are based on our proprietary discrete polyethylene glycol (dPEG[®]) chemistries, including our unique processes for making these important compounds. Our single molecular weight ethylene glycol conjugation technology, dPEG[®], can eliminate common problems found in the development of diagnostic and therapeutic products, such as aggregation and non-specific interactions, poor water solubility, poor delivery, delivery issues/options, short serum half life, toxicity and antigenicity.

The dPEG[®] product line is a unique technology platform which can be custom tailored to meet specific physical, chemical and morphological requirements in a broad array of diagnostic and therapeutic applications. Chemistry applications which incorporate dPEG[®] products include conjugations, simple chemical modifications, cross linking, biotinylation, signal amplification, modification of biological therapeutics and peptide synthesis.

Recently we introduced dPEG[®] products that offer new delivery options as well. We are involved in developing new cross-linking and labeling chemistries that incorporate the dPEG[®] technology, and will allow for completely new approaches to existing opportunities in these same areas of therapeutic and diagnostic development, and will revolutionize many of these areas as the new generations of drugs and diagnostics evolve.

Each product is of high purity, a single discrete compound and available in bulk quantities at discounted prices.

Quanta BioDesign, Ltd's dPEG[®] products are available from R & D material needs to cGMP material needs for Phase II Trials and beyond.

Please also visit our website: www.QuantaBioDesign.com.





How do I order?

- **Phone:** (866) 792-9222 or (614) 792-2958
Monday through Friday 9:00 am to 5:00 pm (EST)
- **Fax:** (614) 760-9781 (24 hours, 7 days a week)
- **E-mail:** sales@quantabiodesign.com
- **Website:** www.quantabiodesign.com

Ordering Information needed

- Your name or customer account name
- Telephone and /or Fax
- Shipping and Billing Addresses
- Purchase Order # or Credit Card Information or other Payment Method
- Product number and Quantities
- Valid e-mail address (if available)
- If confirmation is requested, please request on the order form
- Orders can be placed any time by fax or e-mail

Payment

We accept MasterCard, Visa, American Express, USD check, and bank transfers. Our banking information will be on the invoice. (Please do not send cash)

Shipping and Storage Details

Products will usually ship the order the same day, if it is received by 3:00pm EST. Most of the compounds we sell are stable under normal conditions. We ship our compounds via Fedex overnight with ice packs or under refrigerated conditions as necessary. Orders outside the United States are shipped by Fedex International Priority. We recommend storing Quanta products in the freezer at -20°C or in the refrigerator at 4° for long term storage. The storage details will be shipped with the product.

No products are shipped or delivered on weekends or U.S. holidays.



If you have a technical question about a product you received or have seen in the catalog, please send an e-mail to tech@quantabiodesign.com or call us at (614) 792-2958 or (866) 792-9222.

Material Safety Data Sheets

MSDS's are available on our website under each individual product. We can also fax or e-mail a copy. Please mention your request on the order form if needed.

Product Analysis

Quanta BioDesign's products are unique, single molecular weight (MW), discrete PEG (dPEG™) compounds, synthesized de novo from pure, small units (e.g., triethylene glycol or tetraethylene glycol). Purity is assayed by HPLC, TLC, and/or NMR.

Certificate of Analysis

A certificate of analysis (C of A) will be sent with your product(s) if requested. The C of A provides the test method used, the results, and the purity level of the product.



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11621 Electron Drive
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Web: www.pepnet.com

ThermoFisher Scientific
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Rockford, Illinois 61105
Phone: (800) 874-3723
Fax: (800) 842-5007
Web: www.piercenet.com

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Terms and Conditions



Quanta BioDesign, Ltd. owns self-developed technologies, materials and information, as well as accompanying patents, patent applications, know-how and practical knowledge for the production of discrete polyethylene glycols, dPEG[®]s, and related products.

The following are standard terms of trade and are an integral part of all quotations and sales of Quanta BioDesign, Ltd. to customers, buyers and business enterprises:

1. By placing a Purchase Order, the customer accepts the standard Terms and Conditions of Sale of Quanta BioDesign, Ltd. as binding.
2. Payment terms of sale are net 30 days of date of invoice, unless otherwise stated.
3. Products sold are solely for use by qualified individuals who are experts in their fields for laboratory use only and are not intended to be used for any other purposes, including but not limited to, in vitro diagnostic purposes, in foods, drugs, medical devices, cosmetics or commercial use. Customer represents and warrants to Quanta BioDesign, Ltd. that Buyer will properly test, manufacture, use and market any products purchased from or materials produced from products made or purchased from Quanta BioDesign, Ltd. in strict compliance with all applicable laws and regulations.
4. Nothing in terms of trade or quotation of orders by Quanta BioDesign, Ltd. may be interpreted such that they would result in the assignment of rights of use by Quanta BioDesign, Ltd. technology by the customer.
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A Tour de force!

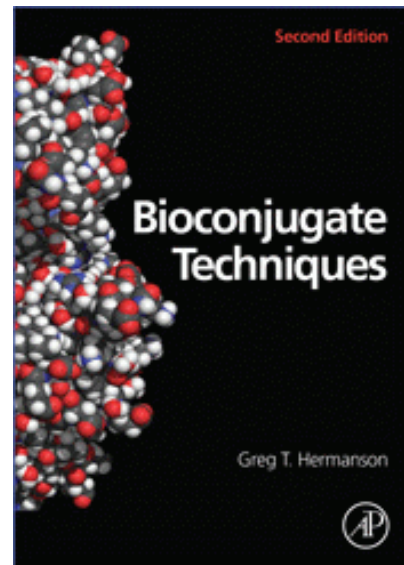
Buy it NOW!!

Greg has accomplished a tour de force with his new edition of "Bioconjugate Techniques." It is without a doubt the best and a complete resource of those practicing in this very broad field. Not only does he teach us, but he also shows us how to put the chemistry into practice. We also thank Greg for introducing the world to the discrete PEG (dPEG™) in Chapter 18! Thank you, Greg!

Buy a copy for only \$75

or

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Product #	Description	Price Per Book
10000	Bloconjugate Techniqes by Greg T. Hermanson	\$75

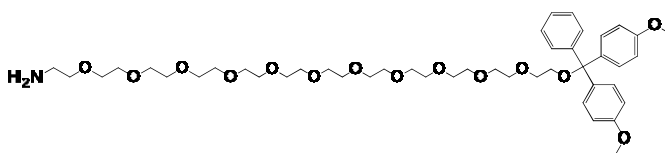
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Reagents
for
Nucleic Acids



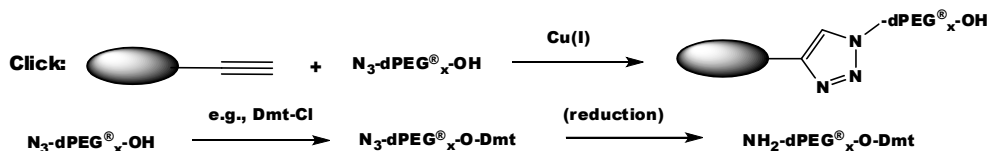
Product Features and Benefits:

- Carbonyl/carboxyl reactive dPEG[®] pegylation reagent that reacts with acids (activated in situ), active esters and aldehydes (and optionally with NaCNBH₃)
- The PROTECTED HYROXYL, as the 4,4'-dimethoxytrityl (Dmt-) alcohol is easily deprotected with mild acid, including TFE (trifluoroethanal)
- Imparts significant and surprising water solubility, and the modifier itself is non-immunogenic and non-toxic
- Adds 560 D as the pegylation chain which is 38 atoms and 43.9 Å long (extended form)

Product #	Description	100 mg	1000 mg
10342	Amino-dPEG [®] ₁₂ -ODMT	\$225	\$900



Single compound: Mol. Wt.: 848.03
dPEG[®] Spacer is 38 atoms and 43.9 Å



Product Features and Benefits:

- $x = 4, 8, 12, 24$ or 36
- Unique AZIDO containing dPEG[®]-pegylation reagent. The azide can potentially be reacted with an acetylene moiety (Click reaction) or an anylphosphite derivative, as part of several Staudinger ligation options (see references).
- Hydroxy functionality can be converted to a more reactive functional group.
- dPEG[®] pegylation arm or spacer is extremely hydrophilic and non-immunogenic/ non-antigenic
- HO-dPEG[®]₁₂ pegylation tail will reduce or eliminate problems with aggregation and immunogenicity --
- dPEG[®]₁₂ pegylation tail is one of several choices of spacer size we can make available, providing a range of size options for optimizing the properties of your particular application.

Applications:

Two very active areas of development using the azide functionality are a) "Click" chemistry, the particular example of the Cu(I) catalyzed reaction of the azide and a terminal acetylene; and b) the Staudinger ligation using functionalized daryl phosphines to couple the azide in a covalent fashion to form amides.

The tremendous attraction to the azide functionality is its very low reactivity and high stability under most conditions, especially where other conjugating functionality have to be used very cautiously due to their limited stability, or require careful control of variables like pH in order to insure high yielding reactions. However, under very specific conditions, the azide is very reactive and highly selective in its reactivity.

As is the case in the current very economically competitive environment, many of the applications of these chemistries may be protected intellectual property.

Protocols:

For particular protocols, please look in the references cited or more detailed application references contained within.

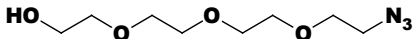

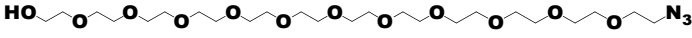
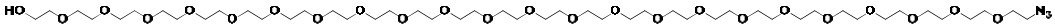

References:

Click Applications: a. "Click Chemistry: Diverse Chemical Function form a Few Good Reactions," H. C. Kolb, M.G. Finn, and K. Barry Sharpless, *Angew. Chem., Int. Eng. Ed.*, 40, 2004-2021 (2001); b. "The growing impact of click chemistry on drug discovery," H. C. Kolb and K. Barry Sharpless, *Drug Discovery Today*, 8(24), 128-1137 (2003); c. "Cu(I)-Catalyzed Alkyne-Azide "Click" Cycloadditions from a Mechanistic and Synthetic Perspective," V. C. Bock, H. Hiemstra and J. H. van Maarseveen, *Eur. J. Org. Chem.*, 51-68 (2006); d. "A3-Type Star Polymers via Click Chemistry," O. Altintas, B. Yankul, G Hizal and U. Tunca, *J. Poly. Sci.: Part A, Polymer Chem.*, 44, 6458-6465 (2006); e. "Preparation of alumina supported copper nanoparticles and their application in the synthesis of 1, 2, 3-triazoles," M. L. Kantam, et al., *J. Mol. Catal. A: Chem.*, 256, 273-277 (2006); f. "A Rapid and Versatile Method to Label Receptor Ligands Using "Click" Chemistry: Validation with the Muscarinic M1 Antagonist Pirenzepine," *Bioconjugate Chemistry*, 17, 1618-1623 (2006).

Staudinger ligations: a. "The Staudinger Ligation-A Gift to Chemical Biology," M. Kohn and R. Breinbauer, *Angew. Chem. Int. Ed.*, 43, 3106 (2004); b. "Traceless Staudinger Ligation of Glycosyl Azides with Triaryl Phosphines: Stereoselective Synthesis of Glycosyl Amides," A. Bianchi and A. Bernardi, *J. Org. Chem.*, 71, 4565-4577 (2006); c. "Reaction Mechanism and Kinetics of the Traceless Staudinger Ligation," M. Soelner, B. L. Nilsson and R. T. Raines, *J. Amer. Chem. Soc.*, 128 (27), 8820-8828 (2006). The first reference is an excellent and recent review in a very active area. Search engines for "Staudinger ligation" for many excellent and additional references.

Azido-dPEG[®]_x-alcohol (cont.)



Product #	Description	100 mg	1000 mg
10541	Azido-dPEG [®] ₄ -alcohol  Mol. Wt.: 219.24; single compound dPEG [®] Spacers are 14 atoms and 15.3 Å approx.	\$150	\$700
10542	Azido-dPEG [®] ₈ -alcohol  Mol. Wt.: 395.45; single compound dPEG [®] Spacers are 24 atoms and 29.5 Å approx.	\$200	\$800
10340	Azido-dPEG [®] ₁₂ -alcohol  Mol. Wt.: 571.66; single compound dPEG [®] Spacer is 37 atoms and 43.0 Å	\$225	\$900
10543	Azido-dPEG [®] ₂₄ -alcohol  Mol. Wt.: 1100.29; single compound dPEG [®] Spacers are 72 atoms and 86.7 Å approx.	\$325	\$1000
10544	Azido-dPEG [®] ₃₆ -alcohol  Mol. Wt.: 1628.92; single compound dPEG [®] Spacers are 108 atoms and 129.7 Å approx.	\$350	\$1100