

## Newsletter DECEMBER 2017

*Wishing all our customers a very Happy Christmas  
and a Prosperous New Year!!!*

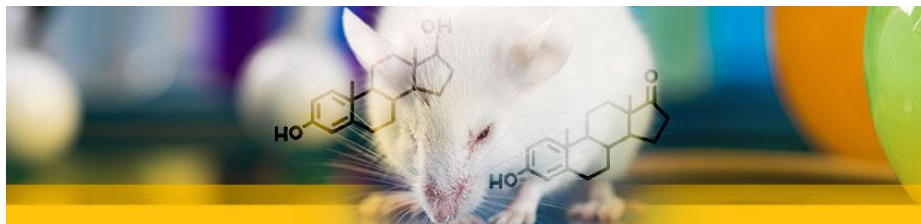
**PLEASE NOTE CLOSURE FOR THE CHRISTMAS/NEW YEAR BREAK:**

**CLOSE Dec 22nd – RE-OPEN Jan 8<sup>th</sup> 2018**

Any urgent business can be emailed to [info@biosci.com.au](mailto:info@biosci.com.au) where it will be actioned as time permits.

Orders will continue be sent to suppliers up to Dec 21, however delivery will be pushed back to after January 8<sup>th</sup>, 2018

**If you feel you will need items prior to Christmas, please get your orders in by Dec 14th**



### Environmental Endocrine Disruption

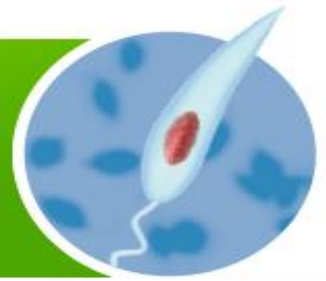
Human beings have been altering our environment since prehistoric times and these changes impact human health and development in many different ways. In modern times, the levels of chemical environmental contaminants that the average human is exposed to have been increasing at an incredible rate with significant impact on health. Regulation and public awareness have slowed the entry of industrial chemical waste into the environment, but not all environmental contamination is as obvious. A class of environmental contaminants currently being studied are endocrine disrupting chemicals including pharmaceutical products, pesticides, compounds such as Bisphenol A (BPA) used in the plastics industry and in consumer products, industrial by-products and pollutants and even some naturally produced botanical chemicals. Disruption of the endocrine system can directly interfere with development, behavior, fertility, and maintenance of homeostasis in significant ways. However, it is often overlooked that the endocrine system and hormone levels also modulate immune response and regulate the maturation, distribution, proliferation, and functionality several immune cell populations. If endocrine hormones impact the immune system, then chemical disruption of the endocrine system also affects immune function. Many on going studies

concern the effects of environmental exposure to various kinds of endocrine disrupting chemicals, as well as means of exposure and levels of these compounds absorbed and retained in various body tissues as a result of typical daily life. Disturbingly some of these studies have shown the levels of exposure necessary to observe effects can be quite low compared to typical environmental contact, and in at least some cases, even brief exposures can show effects throughout life.

A recent study by [Palacios-Arreola et al.](#) demonstrated just a single neonatal exposure to BPA can cause changes in the immune system influencing tumor formation and breast cancer disease progression in adulthood. Female mice were exposed to a single dose of BPA (250 ug/kg body weight) 72 hours after birth. At 8 weeks old, treated, control, and vehicle mice were further divided into control and tumor induction groups.

Arbor Assays Estradiol Serum EIA Kit, KB30-H

Further reading: <https://www.nature.com/articles/s41598-017-10135-1>



## Expressing Crystal-Quality Proteins with LEXSY

The eukaryotic expression system LEXSY is becoming increasingly popular with crystallographers since it :

- shows high expression success rates (> 90 %) for eukaryotic proteins for which many other systems fail
- produces homogeneously glycosylated proteins being prone for crystallization
- allows simple amino acid isotope labelling

### LEXSY – all you need to get started!!

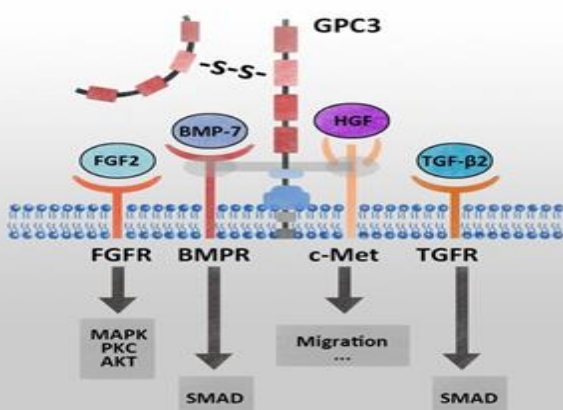
Need further information? Please check out the **LEXSY section at the Jena Bioscience website** - [www.jenabioscience.com/lexsy-expression](http://www.jenabioscience.com/lexsy-expression)

Pricing – [sales@biosci.com.au](mailto:sales@biosci.com.au)



## GPC3 proteins from ACROBiosystems

Glypican-3 (GPC3), a 70 kDa surface-bound proteoglycan, is an important biomarker of hepatocellular carcinoma (HCC) (Nakatsura *et al.*, 2003). In the disease tissue, GPC3 is overexpressed at both gene and protein levels. It regulates multiple downstream signaling cascade, and by doing so stimulates macrophage engagement and promotes epithelial-mesenchymal transition (EMT). Therefore, GPC3 has been extensively investigated as a molecule of interest for molecular imaging and targeted therapy.



ACROBiosystems provides a comprehensive panel of human GPC3 proteins, including both His-tagged GPC3 (Cat. No. GP3-H5223) and Fc-fusion GPC3 (Cat. No. GP3-H5258). In addition, we also offer Cynomolgus GPC3 and Mouse GPC3 proteins in His-tagged and Fc-tagged format. The pre-biotinylated GPC3 protein (Avitag™) will come soon. The interaction between GPC3 and growth factors (Zhou *et al.*, 2017). Enquire – [info@biosci.com.au](mailto:info@biosci.com.au)

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EcoHealth Inc.



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**WHY USE GLYCOPEPTIDES?**

<p><b>Glycosylation of peptide drugs can result in:</b></p> <ul style="list-style-type: none"> <li>• Increased half-life, providing extended dosing duration</li> <li>• Better solubility, enabling improved formulation properties</li> <li>• Improved response to therapy</li> <li>• Better tolerance of drug</li> </ul>	<p><b>Traditional recombinant production of glycopeptides faces problems:</b></p> <ul style="list-style-type: none"> <li>• Heterogeneous glyco-peptides</li> <li>• Elaborate and costly purification, including removal of biological contaminants such as cellular debris or viruses</li> </ul>	<p><b>Advantages of chemical glycosylation:</b></p> <ul style="list-style-type: none"> <li>• Homogeneous products: Chemical synthesis yields well-defined glycopeptides</li> <li>• Most chemically synthesized peptide drugs can be easily adapted to glycosylation</li> <li>• Competitive production costs</li> </ul>
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**25(OH) Vitamin D ELISA**

- **No external sample preparation**
- **No organic solvents**
- **100% cross-reactivity to D2 & D3**
- **Sensitive, robust & automation-friendly**
- **2.5 hour total assay time**

*Calbiotech's 25(OH) Vitamin D ELISA features 100% Cross-reactivity to D2 & D3 and no outside extraction step! This is a sensitive, robust and automation-friendly assay, requiring no external sample preparation and no organic solvents with a 2.5 hour total assay time.*

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Call 1 300 246 724 (BIOSCI) Monday - Friday 8.30 am-5pm



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