

Radioimmunoassay

[View the current Radioimmunoassay InDepth page on BioPortfolio.com](http://www.bioportfolio.com/indepth/Radioimmunoassay.html)

(<http://www.bioportfolio.com/indepth/Radioimmunoassay.html>)

Radioimmunoassay is a scientific method used to test antigens without the need to use a bioassay. It involves mixing known quantities of radioactive antigen with antibody to that antigen, then adding unlabeled or "cold" antigen and measuring the amount of labeled antigen displaced. Initially, the radioactive antigen is bound to the antibodies. When "cold" antigen is added, the two compete for antibody binding sites - at higher concentrations of "cold" antigen, more of it binds to the antibody, displacing the radioactive variant. The bound antigens are separated from the unbound ones. One method of separation used initially was the use of a second antibody directed against the first for precipitation and centrifugation. The use of charcoal suspension for precipitation was extended but replaced later by Drs. Werner and Acebedo at Columbia University for RIA of T3 and T4. An ultramicro RIA for human TSH was published in BBRC by Drs. Acebedo, Hayek et al. The free hormone stays in the supernatant, the radioactivity of which is measured and a binding curve is plotted. The technique is both extremely sensitive and specific, but it requires special precautions, sophisticated apparatus, and is expensive. The technique has been largely replaced by the ELISA method where instead of a radioactive signal, the antigen-antibody reaction is measured by colorimetric signals. The RIA was developed by Rosalyn Yalow and Solomon Aaron Berson in the 1950s. Rosalyn Sussman Yalow received the 1977 Nobel Prize in Medicine for the development of the RIA for insulin. The precise measurement of minute amounts of such a hormone was a key event in endocrinology.

Recent Publications on Radioimmunoassay:



- [Effects of minor laboratory procedures, adrenalectomy, social defeat or acute alcohol on regional brain concentrations of corticosterone.](#)
*Concentrations of corticosterone in the brain areas of TO strain mice were...*30th August, 2008
The University of Birmingham, Birmingham B15 2TT, UK.- Brain Res. 2008 Aug 13. (DOI Direct Link)
- [\[Identification of correlations between numbers of CD4+ CD25+ Treg cells, levels of sera anti-AChR antibodies and transfer growth factor-beta in patients with myasthenia gravis\]](#)
*OBJECTIVE: The purpose of the current study is to demonstrate possible...*30th August, 2008
Department of Neurology, Peking Union Medical College Hospital, Chinese- Zhonghua Yi Xue Za Zhi. 2008 Apr 15;88(15):1036-40.
- [Leptin in nonalcoholic fatty liver disease.](#)
*Background: Non-alcoholic fatty liver disease (NAFLD) is a prevalent...*30th August, 2008
M.D. Fellow; Istanbul Science University, Avrupa Florence Nightingale- Ann Hepatol. 2008 Jul-Sep;7(3):249-54.
- [Expression of Estrogen Receptor Alpha and Beta in Breast Cancers of Pre- and Post-menopausal Women.](#)
*Expression of estrogen receptors (ER) is clinically relevant in designing...*30th August, 2008
Instituto Mexicano del Seguro Social, Unidad Medica de Alta Especialidad- Pathol Oncol Res. 2008

- Aug 28. ([DOI Direct Link](#))
- [Molecular mechanism of effect of rotating constant magnetic field on organisms.](#)
*The effect of RCMF-magnetic therapy apparatus on signal substances was...*30th August, 2008
 Life Science Institute, Shenzhen University, 518060, Shenzhen, China,- Sci China C Life Sci. 2001 Oct;44(5):554-60. ([DOI Direct Link](#))
 - [Removal of endocrine active compounds using layered double hydroxide material.](#)
*A granular form of a layered double hydroxide material (LDH) was used as...*30th August, 2008
 Western Research Institute, 365 North 9th St., Laramie, Wyoming 80272, USA- Water Sci Technol. 2008;58(3):597-602. ([DOI Direct Link](#))
 - [Angiotensin II upregulates renin-angiotensin system in human isolated T lymphocytes.](#)
*This study was aimed at investigating the effects of Angiotensin (Ang) II...*30th August, 2008
 Cardiology 1, Department of Medical and Surgical Critical Care, University- Regul Pept. 2008 Aug 3. ([DOI Direct Link](#))
 - [Left ventricular isovolumic relaxation and renin-angiotensin system in the growth restricted fetus.](#)
*OBJECTIVE: To determine left ventricular isovolumic relaxation time (LV...*30th August, 2008
 Mother and Child Care Institute, Yekaterinburg, Russia; Institute of- Eur J Obstet Gynecol Reprod Biol. 2008 Sep;140(1):33-7. ([DOI Direct Link](#))
 - [Plasma FGF-21 levels in type 2 diabetic patients with ketosis.](#)
*FGF-21 has been recently characterized as a potent metabolic regulator,...*30th August, 2008
 The Key Laboratory of Laboratory Medical Diagnostics in Ministry of- Diabetes Res Clin Pract. 2008 Aug 21. ([DOI Direct Link](#))
 - [The effects of high fat on central appetite genes in Wistar rats: A microarray analysis.](#)
*BACKGROUND: To evaluate the effects of high fat on central appetite...*30th August, 2008
 Department of Clinical Nutrition, Ren Ji Hospital, School of Medicine,- Clin Chim Acta. 2008 Aug 5. ([DOI Direct Link](#))
 - [Physicochemical properties, pharmacokinetics, and pharmacodynamics of a reformulated microemulsion propofol in rats.](#)
*BACKGROUND: A newly developed microemulsion propofol consisted of 10%...*23rd August, 2008
 Department of Anesthesiology and Pain Medicine, Asan Medical Center,- Anesthesiology. 2008 Sep;109(3):436-47. ([DOI Direct Link](#))
 - [\[5-HT1A/1B receptors, alpha2-adrenoceptors and the post-receptor adenylate cyclase activation in the mice brain are involved in the antidepressant-like action of agmatine\]](#)
*This study is to explore the possible mechanisms of the...*23rd August, 2008
 Institute of Pharmacology and Toxicology, Academy of Military Medical- Yao Xue Xue Bao. 2008 May;43(5):467-73.
 - [Abdominal Surgery Performed under General Anesthesia Increases Somatostatin-Like Immunoreactivity in Human Serum.](#)
*Objective: It has been established in animals that somatostatin (SST) is...*22nd August, 2008
 Department of Surgery, General Hospital Nagyatad, Nagyatad, Hungary.- Neuroimmunomodulation. 2008 Aug 21;15(3):153-156. ([DOI Direct Link](#))
 - [Immunogenicity of human and bovine insulin in type 1 diabetes mellitus patients.](#)
*Abstract Background: The advantages of synthetic insulin (human insulin)...*22nd August, 2008
 Department of Endocrinology and Metabolism, M.S. Ramaiah Medical College- Diabetes Technol Ther. 2008 Aug;10(4):305-9. ([DOI Direct Link](#))
 - [In vivo interferon system assessed by 2'-5' oligoadenylate synthetase activity in chronic hepatitis C virus patients treated with pegylated interferon and ribavirin.](#)
*Aim: 2',5' oligoadenylate synthetase (2-5AS), an enzyme induced by...*21st August, 2008
 Liver Diseases Section, Akashi Municipal Hospital, Akashi, Japan.- Hepatol Res. 2008 Aug 18. ([DOI Direct Link](#))

Radioimmunoassay Clinical Trials:



- [Effect of a Low-Calorie Diet and/or Exercise Program on Risk Factors for Developing Breast Cancer in Overweight or Obese Postmenopausal Women](#)
Breast Cancer; Obesity; Weight Changes

Radioimmunoassay Patents:



- 7410799- [In vivo production and delivery of erythropoietin or insulinotropin for gene therapy](#)
- 7413864- [Treating cancer using a telomerase vaccine](#)
- 7413865- [Diagnostic method for a transmissible spongiform encephalopathy or prion disease](#)
- 7413873- [Method of detection and treatment of colon cancer](#)
- 7413894- [TAG-1 and TAG-2 proteins and uses thereof](#)
- 7413899- [Genes from the 20q13 amplicon and their uses](#)
- 7414029- [Antagonistic peptides of prostaglandin E2 receptor subtype EP4](#)
- 7414044- [Use of targeted oxidative therapeutic formulation in treatment of type 2 diabetes](#)
- 7414071- [Methods of treatment with selective EP4 receptor agonists](#)
- 7414077- [Therapeutic intervention to mimic the effect of caloric restriction](#)
- 7414109- [FIAT nucleic acids and proteins and uses thereof](#)
- 7413851- [Nucleophosmin directed diagnostics and therapeutics for multidrug resistant neoplastic disease](#)
- 7413806- [Implant coatings](#)
- 7413743- [Active immunization using a siderophore receptor protein](#)
- 7410941- [Methods for treatment of neurodegenerative conditions by peripherally administered erythropoietin](#)
- 7411037- [Polypeptides encoded by a nucleic acid underexpressed in melanoma](#)
- 7411040- [PRO6182 polypeptides](#)
- 7411041- [DCRS5 polypeptides](#)
- 7411047- [PRO6097 antibodies](#)
- 7411050- [Monoclonal blocking antibody to human RANKL](#)
- 7411051- [Antibodies to HDPPA04 polypeptide](#)
- 7411052- [Methods and materials relating to stem cell growth factor-like polypeptides and polynucleotides](#)
- 7411054- [25869, 25934, 26335, 50365, 21117, 38692, 46508, 16816, 16839, 49937, 49931 and 49933 molecules and uses therefor](#)
- 7411056- [Polynucleotides encoding cytokine receptor zalpha11](#)
- 7414112- [Antibodies to PRO1550 polypeptides](#)
- 7414121- [Chimeric, human and humanized anti-CSAp monoclonal antibodies](#)
- 7417038- [Methods of treating cachexia](#)
- 7417061- [Oxadiazole compounds and compositions for delivering active agents](#)

- 7417115- [PRO6027 polypeptides](#)
- 7417116- [PRO7155 polypeptides](#)
- 7417120- [Purified Stat proteins and methods of purifying thereof](#)
- 7417121- [Human G-protein coupled receptor, HGPRBMY39](#)
- 7417122- [Mammalian galanin receptors](#)
- 7417123- [PRO4399 Antibodies](#)
- 7417125- [Antibodies that bind a PRO1158 polypeptide](#)
- 7417126- [PRO246 antibodies](#)
- 7417035- [Phospholipid derivatives of non-steroidal anti-inflammatory drugs](#)
- 7417022- [Compounds and compositions for delivering active agents](#)
- 7416858- [Pharmaceutical compositions of glycoconjugates](#)
- 7414123- [Nucleic acids encoding 7C10 and 16C10 CD80-specific antibodies](#)
- 7416724- [Diagnosis and treatment of diseases arising from defects in the tuberous sclerosis pathway](#)
- 7416727- [Polypeptide variants with altered effector function](#)
- 7416728- [Growth blocking agents](#)
- 7416729- [Methods of treating rheumatoid arthritis with anti-TNF antibodies](#)
- 7416731- [Human hairless antibodies](#)
- 7416840- [Replication of hepatitis C virus in non-hepatic epithelial and mouse hepatic cells](#)
- 7416848- [DNA encoding SNORF25 receptor](#)
- 7416852- [Identification of Porphyromonas gingivalis virulence polynucleotides for diagnosis, treatment, and monitoring of periodontal diseases](#)
- 7416855- [Immunoassay methods for detecting interleukin-1 .beta. converting enzyme like apoptosis protease-3](#)
- 7417128- [7C10 and 16C10 CD80-specific antibodies](#)

Resources from the [NCBI](#) used in this document, [NCBI's standard disclaimer applies](#).

Nothing in this document should be used in place of personal medical advice from your own qualified medical practitioner. See BioPortfolio.com [User Agreement](#)

Send comments and feedback to:

Peter Barfoot Managing Director, BioPortfolio Ltd.

UK Tel: (+44) 1300 321501

USA Voicemail and Fax: (+1) 415 680 2472

[Peter Barfoot peter.barfoot@bioportfolio.com](mailto:peter.barfoot@bioportfolio.com)

All rights reserved. All other trademarks recognized.

BioPortfolio Limited is registered in England & Wales at Wessex Barn, Dorchester Road, Frampton, Dorset, DT2 9NB, UK. No.3312883 VAT No. GB 744 6483 10

Copyright 1997-2008 - BioPortfolio Limited.

