Ten things you can do with machine learning

Michael Upshall  UKSG Forum 2017
Automatic linking with concepts

- Document to document
- Document to person
- Document to journal
Wheel of solutions

Tools for academic publishing
Molecular targeted therapies for breast cancer treatment

Schlotter, Claus M · Vogt, Ulf · Allgayer, Heike · Brandt, Burkhard

Concepts in Article

- Nucleoside Analogue
- Breast Cancer Cell
- Metastatic Breast Cancer
- Endothelial Growth Factor
- Breast Carcinoma
- Her2 Pathway Inhibitor
- Bevacizumab
- MDA-MB-231 Cell

Abstract

Targeting the oestrogen receptor, HER2 (human epidermal growth factor receptor 2) and vascular endothelial growth factor has markedly improved breast cancer therapy. New targeted therapeutic approaches to induction of apoptosis or inhibition of anti-apoptosis, cell cycle progression, signal transduction and angiogenesis are described. The molecular pathways and their inhibitory or repair mechanisms are discussed in the preclinical and clinical settings.

Introduction

Treatment of early-stage breast cancer requires a multimodality approach to eradicate residual cancer and prevent recurrent disease. Targeting the pathways that promote or sustain growth and invasion of carcinoma cells is critical to effective treatment of breast cancer [1,2].

Targeting the oestrogen receptor (ER) is the oldest molecular targeted therapy approach, and widespread use of the selective ER modulator tamoxifen in breast cancer is responsible for major improvements in cure rates, quality of life and disease prevention during the past 25 years. Targeting both HER2 (human epidermal growth factor receptor 2) with trastuzumab and the vascular endothelial growth factor (VEGF) with bevacizumab in combination with chemotherapy has become a further milestone of molecular targeted therapy [3-5]. However, intrinsic and acquired resistance to endocrine and/or cytostatic treatments is still a common feature that limits the benefits of these novel therapeutic strategies. Therefore, clinical trials of endocrine or cytotoxic therapies combined with growth factor pathway inhibitors or their downstream signalling elements are warranted; such approaches may allow us to improve upon the current standard of care for breast cancer patients [6]. Unfortunately, despite encouraging preclinical data, some of these combinations have yielded disappointing results in the clinical setting [7].

This review describes and critically discusses targeted therapies for induction of apoptosis or inhibition of anti-apoptosis, cell cycle progression, signal transduction and angiogenesis (Fig. 1). Table 1 summarizes both finished and ongoing studies in this area.
Identify trending concepts

- Show use of concept over time
- List publications where the concept appears
- List authors who use the concept
- Link to related concepts

Tay-Sachs Disease

Publication overview

<table>
<thead>
<tr>
<th>Month</th>
<th>Publications</th>
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<tbody>
<tr>
<td>January</td>
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<td>February</td>
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<td>July</td>
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Authors

- Lindahl, Tomas: 10 recent publications
- Kumar, Sanath: 8 recent publications

Recent articles

BipA Is Associated with Preventing Autoagglutination and Promoting Biofilm Formation in Bordetella holmesii

Lindahl, Tomas, Momoko Saito, Nao Otuka, Eri Suzuki, Mineo Watanabe, Keigo Shibayama, Kazunari Kamachi
Find the right journal for an article

Selected Article

**Molecular targeted therapies for breast cancer treatment**

<table>
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<th>Article's key concepts</th>
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<td>PI3K Pathway Inhibitor</td>
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<td>Bortezomib</td>
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<td>Lapatinib</td>
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<td>Panthenolide</td>
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<td>HER2-positive Advanced Breast Cancer</td>
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<td>ER-positive Breast Cancer</td>
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<td>Gemcitabine</td>
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<tr>
<td>Fulvestrant</td>
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<td>Breast Cancer Patient</td>
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Refine results

Latest publication year

<table>
<thead>
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<td>2016</td>
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<td>2015</td>
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</table>

8 matching journals found

**Breast Cancer Research**
Latest issue published in June 2016

**Journal of Breast Cancer**
Latest issue published in May 2016

**International Journal of Breast Cancer**
Latest issue published in June 2016

**Hereditary Cancer in Clinical Practice**
Latest issue published in January 2016

**Journal of Personalized Medicine**
Latest issue published in April 2016

**BMC Cancer**
Find a peer reviewer

Molecular targeted therapies for breast cancer treatment

6 matching peer reviewers found

Goerner, Martin
Author has written 11 matching articles

Kafoury, Mona
Author has written 9 matching articles

Okeahialam, Basil N
Author has written 8 matching articles

Thacher, Tom D
Author has written 8 matching articles

Stefanadis, Christodoulos
Author has written 3 matching articles

Redmond, Eileen M.
Create a portal: nano.nature.com

Chemical Functionalization of Graphene Nanoribbons
We review the electronic properties of graphene nanoribbons functionalized by various elements and functional groups. Graphene nanoribbons are strips of graphene, the honeycomb lattice of carbon with $sp^2$ bonds.

This article discusses Graphene Nanoribbons with Graphene, Nanoribbons, Electronic, Property, Physical Review

Local strain effect on the thermal transport of graphene nanoribbons: a molecular dynamics investigation
Leping Xu | Xianmei Zhan, | Yangping Zhang in Physical Chemistry Chemical Physics (2015)
Create an instant subject collection

1. No Poverty
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3. Good Health and Well-being
4. Quality Education
5. Gender Equality
6. Clean Water and Sanitation
7. Affordable and Clean Energy
8. Decent Work and Economic Growth
9. Industry, Innovation and Infrastructure
10. Reduced Inequalities
11. Sustainable Cities and Communities
12. Responsible Consumption and Production
13. Climate Action
14. Life Below Water
15. Life on Land
16. Peace, Justice and Strong Institutions
17. Partnerships for the Goals

Zero Hunger
Sustainable Food
Sustainable Diet
Food Insecurity
Increase Food Availability
Sustainable Food Production
Develop Region Eastern
Global Food Security Crisis
Severe Food Insecurity
Food Production System
Automatic tagging to a taxonomy

Your corpus

UNSILO

Tagged corpus
- Concepts
- Related content
- Subject tags

Custom taxonomies, e.g. from Synaptica / Pool Party / Access Innovations

Public ontologies, e.g. MeSH, Disease Ontology

Knowledgebases, e.g. DBpedia, PubChem
Combine machine and human skills
Non-invasive cardiac imaging techniques and vascular tools for the assessment of cardiovascular disease in type 2 diabetes mellitus


Abstract

Diabetes mellitus is associated with increased risk for atherosclerotic cardiovascular disease (CVD). Recent prospective studies in healthy individuals suggest that the postprandial triglyceride (TG) level is a better independent predictor for assessing future CVD events than fasting TG levels. In contrast, results have been more controversial among diabetic patients, as some studies report a positive association between postprandial TG and CVD. This raises the issue of to what extent postprandial TG levels may be of predictive value in the diabetic population. One possibility impacting on the predictive power of postprandial TG in identifying CVD risk may be the presence of other risk factors, including alterations in lipid and lipoprotein metabolism, which could make it more difficult to identify the impact of postprandial lipemia on cardiovascular risk. The findings provide a challenge to develop a better approach to assess the impact of postprandial lipemia on CVD risk under diabetic conditions. We examined the relationship between histological renal expression of MMP-9 and renal fibrosis.

Introduction

Cardiovascular disease (CVD) is the leading cause of mortality in type 2 diabetes mellitus [1]. Current
Identify and compare claims

Publisher: Springer Nature

Problem: Editors spend time clarifying what an article is trying to prove. Basic assertions often not clearly expressed

Process: UX driven process. Interview SMEs and editors and get feedback on key assertions

Solution: A tool that enables editors to understand an article in detail using UNSILO’s AI technology.

Fact Checker

"Vitamin D metabolites improve reproductive fitness in wild sheep populations."

75% agree with this fact. See all sources.

"Skin pigmentation may affect 25(OH)D concentrations in humans."

There is a possible conflict here. Only 47% agree with this fact. See all sources.

01.01.2017 Kickoff project
01.01.2017 Prototype ready
31.12.2018 Product Launch
Ten things

Try the UNSILO showcase at www.unsilo.ai

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