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(54) **Methods for treating TWEAK-related conditions**

(57) The present invention provides methods and agents for the treatment of TWEAK-related conditions, including cardiac, liver, kidney, lung, adipose, skeletal, muscle, neuronal, bone and cartilage conditions. The invention also provides methods for identifying TWEAK agonists or antagonists for the treatment of TWEAK-related conditions. Additionally, the invention provides transgenic animals that express an exogenous DNA encoding a

TWEAK polypeptide, or fragments, analogs, or muteins thereof, and methods for using such animals to identify TWEAK agonists or antagonists. The invention further provides methods for diagnosing a disease based on TWEAK expression. The invention also provides methods for affecting cellular differentiation of progenitor cells using TWEAK polypeptides, agonists, or antagonists.

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## EUROPEAN SEARCH REPORT

Application Number  
EP 08 10 4327

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	WO 01/45730 A (IMMUNEX CORPORATION; WILEY, STEVEN, R) 28 June 2001 (2001-06-28) * page 3, line 1 - line 21 * * page 5, line 9 - line 10 * * page 6, line 12 - line 13 * * page 9, line 11 - line 12 * * page 15, line 17 - page 17, line 10 * * claims 1-37,45; examples 2-4,6-8 *	1-8, 12-21	INV. A61K39/395 A61K39/00 G01N33/53 C12P21/00 C12N15/64 A01K67/00
X,D	WO 99/19490 A (GENENTECH, INC) 22 April 1999 (1999-04-22) * page 7, line 35 - page 8, line 4 * * page 12, line 39 - page 13, line 20 * * page 17, line 8 - line 12 * * page 27, line 24 - page 29, line 6 * * claim 27 *	1-8, 12-18	
X	US 6 207 642 B1 (WILEY STEVEN R) 27 March 2001 (2001-03-27) * column 4, line 55 - line 65 * * column 5, line 16 - line 22 * * column 8, line 17 - column 9, line 52 * * column 18, line 54 - line 63 * * column 24, line 20 - column 25, line 37 * * column 32, line 7 - line 36 * * column 36, line 16 - line 45 * * claims 1,2 *	1-8, 12-18	TECHNICAL FIELDS SEARCHED (IPC) C07K A61K
X	WO 00/42073 A (BIOGEN, INC; RENNERT, PAUL) 20 July 2000 (2000-07-20) * page 7, line 25 - page 8, line 16 * * page 13, line 7 - line 21 * * page 18, line 17 - page 25, line 17 * * claims 1-22; table 1 * ----- -/--	1-8, 12-19, 21-23	
9 <del>The present search report has been drawn up for all claims</del>			
Place of search Munich		Date of completion of the search 30 January 2009	Examiner Bayer, Annette
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	

EPO FORM 1503 03.82 (P04C01)



## EUROPEAN SEARCH REPORT

Application Number  
EP 08 10 4327

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	WO 01/85193 A (BIOGEN, INC; JAKUBOWSKI, ANIELA; BURKLY, LINDA) 15 November 2001 (2001-11-15) the whole document, especially page 11 lines 5-page 13 line 19 -----	1-8, 12-18	
			TECHNICAL FIELDS SEARCHED (IPC)
<del>The present search report has been drawn up for all claims</del>			
Place of search Munich		Date of completion of the search 30 January 2009	Examiner Bayer, Annette
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons ..... &amp; : member of the same patent family, corresponding document</p>			

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EPO FORM 1503 03/82 (P04C01)



Application Number

EP 08 10 4327

**CLAIMS INCURRING FEES**

The present European patent application comprised at the time of filing claims for which payment was due.

☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due and for those claims for which claims fees have been paid, namely claim(s):

☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due.

**LACK OF UNITY OF INVENTION**

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

☐ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.

☐ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.

☒ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:

1-8, 12-23

☐ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:

☐ The present supplementary European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims (Rule 164 (1) EPC).



**LACK OF UNITY OF INVENTION  
SHEET B**

Application Number

EP 08 10 4327

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. claims: 1-8, 12-18

The use of a TWEAK modulator for the manufacture of a medicament for the treatment of the disease recited in present claims 1, 8, 12 and 16.

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2. claim: 9

A method for identifying a compound that acts as a TWEAK agonist or TWEAK antagonist as recited in present claim 9.

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3. claims: 10,11

A method for identifying dilated cardiomyopathy in a subject as recited in present claim 10.

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4. claims: 19-23

The use of a TWEAK antagonist for the manufacture of a medicament for the treatment or prevention of heart disease.

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**ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.**

EP 08 10 4327

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.  
The members are as contained in the European Patent Office EDP file on  
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

30-01-2009

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EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

专利名称(译)	治疗TWEAK相关病症的方法		
公开(公告)号	<a href="#">EP1997512A3</a>	公开(公告)日	2009-03-11
申请号	EP2008104327	申请日	2003-04-09
申请(专利权)人(译)	Biogen Idec公司MA INC.		
当前申请(专利权)人(译)	Biogen Idec公司MA INC.		
[标]发明人	BURKLY LINDA JAKUBOWSKI ANIELA ZHENG TIMOTHY HAHM KYUNGMIN		
发明人	BURKLY, LINDA JAKUBOWSKI, ANIELA ZHENG, TIMOTHY HAHM, KYUNGMIN		
IPC分类号	A61K39/395 A61K39/00 G01N33/53 C12P21/00 C12N15/64 A01K67/00 A01K67/027 A61K38/00 A61K45/00 A61P1/00 A61P1/18 A61P15/00 A61P17/00 A61P19/00 A61P19/04 A61P25/00 A61P43/00 C07K14/28 C07K14/525 C07K14/705 C07K16/24 C07K16/28 C07K19/00 C12N15/09 C12P21/08 C12Q1/02 C12Q1/68 G01N33/15 G01N33/50		
CPC分类号	A61K39/39566 A61K2039/505 A01K2217/05 A61K38/00 A61P1/00 A61P1/04 A61P1/16 A61P1/18 A61P3/04 A61P11/00 A61P13/00 A61P13/02 A61P13/04 A61P13/12 A61P15/00 A61P15/08 A61P17 /00 A61P19/00 A61P19/04 A61P21/00 A61P25/00 A61P29/00 C07K14/70575 C07K16/2875 C07K2319 /00 C07K2319/30 A61K38/191 A61K39/39533 C07K16/241 A61K39/3955 A61K45/06 C07K14/525 C07K16/22		
优先权	60/371611 2002-04-09 US		
其他公开文献	EP1997512A2 EP1997512B1		
外部链接	<a href="#">Espacenet</a>		

## 摘要(译)

本发明提供了治疗TWEAK相关病症的方法和药剂，包括心脏，肝脏，肾脏，肺，脂肪，骨骼，肌肉，神经元，骨和软骨病症。本发明还提供了鉴定TWEAK激动剂或拮抗剂以治疗TWEAK相关病症的方法。另外，本发明提供了表达编码TWEAK多肽或其片段，类似物或突变蛋白的外源DNA的转基因动物，以及使用这些动物鉴定TWEAK激动剂或拮抗剂的方法。本发明还提供了基于TWEAK表达诊断疾病的方法。本发明还提供了使用TWEAK多肽，激动剂或拮抗剂影响祖细胞的细胞分化的方法。

		<b>EUROPEAN SEARCH REPORT</b>		Application Number EP 08 10 4327
<b>DOCUMENTS CONSIDERED TO BE RELEVANT</b>				
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)	
X	WO 01/45730 A (IMMUNEX CORPORATION; WILEY, STEVEN, R) 28 June 2001 (2001-06-28) * page 3, line 1 - line 21 * * page 5, line 9 - line 10 * * page 6, line 12 - line 13 * * page 9, line 11 - line 12 * * page 15, line 17 - page 17, line 10 * * claims 1-37/45; examples 2,4,6-8 *	1-8, 12-21	INV. A61K39/395 A61K39/00 G01N33/53 C12P21/00 C12N15/64 A01K67/00	
X,0	WO 99/19490 A (GENENTECH, INC) 22 April 1999 (1999-04-22) * page 7, line 35 - page 8, line 4 * * page 12, line 39 - page 13, line 20 * * page 17, line 8 - line 12 * * page 22, line 24 - page 29, line 6 * * claim 27 *	1-8, 12-18		
X	US 6 207 642 B1 (WILEY STEVEN R) 27 March 2001 (2001-03-27) * column 4, line 55 - line 65 * * column 5, line 16 - line 22 * * column 6, line 17 - column 9, line 52 * * column 18, line 54 - line 63 * * column 24, line 20 - column 25, line 37 * * column 32, line 7 - line 36 * * column 36, line 16 - line 45 * * claims 1,2 *	1-8, 12-18	TECHNICAL FIELD (IPC) C07K A61K	
X	WO 00/42073 A (BIOGEN INC; RENNERT, PAUL) 20 July 2000 (2000-07-20) * page 7, line 25 - page 8, line 16 * * page 13, line 7 - line 21 * * page 18, line 17 - page 25, line 17 * * claims 1-22; table 1 *	1-8, 12-19, 21-23		
-This document search report has been drawn up for all claims-				
Place of search <b>Munich</b>		Date of completion of the search <b>30 January 2009</b>		Examiner <b>Bayer, Annette</b>
CO-CLASSIFICATION OF CITED DOCUMENTS A: particularly relevant if taken alone B: particularly relevant if combined with another document of the same category C: technological field of the invention D: intermediate document		E: theory or principle underlying the invention F: prior art document, but published on, or after the filing date of the application G: document cited for other reasons H: member of the same patent family, corresponding document		