



Software for
Business Intelligence

BizInt Smart Charts

Exploring the IP Universe: FTO "Whitespace", Surveillance, and Beyond

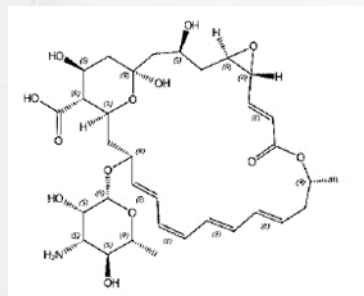
Matt Eberle, Lead Developer, Analytics & Custom Solutions
17 September 2023
15th Anniversary CEPIUG Conference



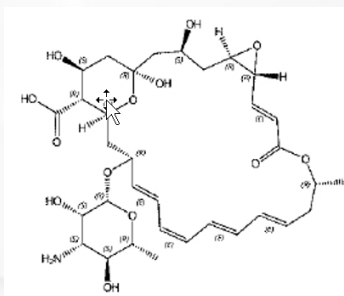
Finding the sun amongst the stars

Use Case	Key BizInt Features
FTO Whitespace	Index of Hit Structures
Sequence Summary	Custom Subtable
Biologics Compliance	Identify Common Drug Name
FTO Classify by Key Concepts	Custom Thesaurus
Filter Patent Family by Authority	Find and Filter by Selected
Surveillance: Identify New Publications	Update and New Publications

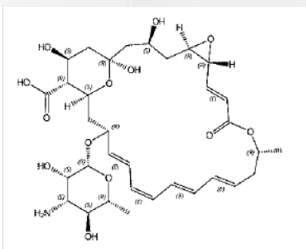
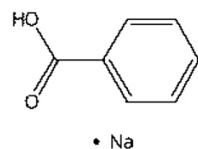
Focus on whitespace: Index of Hit Structures & references count



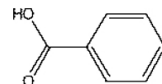
Absolute stereochemistry shown
E/Z labels describe double bond geometry



Absolute stereochemistry shown
E/Z labels describe double bond geometry
CM 2 CRN 532-32-1



Absolute stereochemistry shown
E/Z labels describe double bond geometry
CM 2 CRN 532-32-1

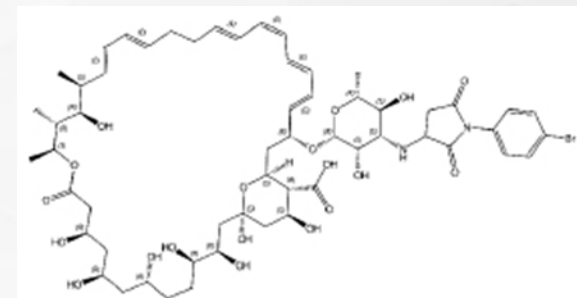
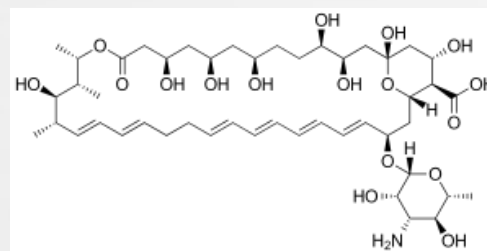
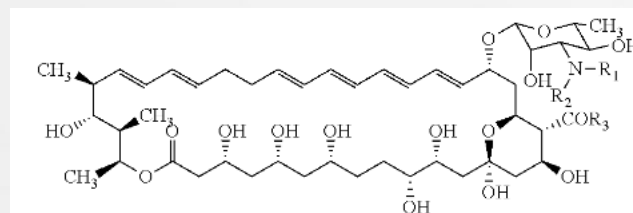
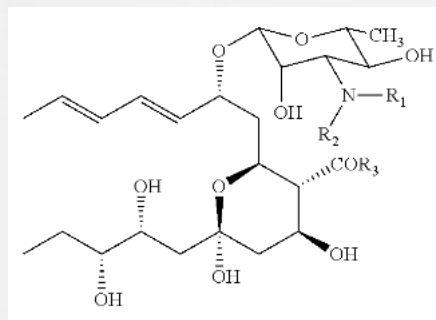


• Na

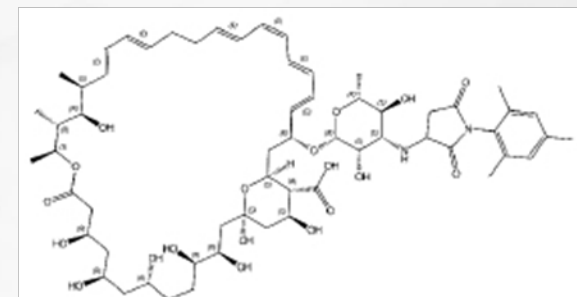
CM 3 CRN 62-54-4



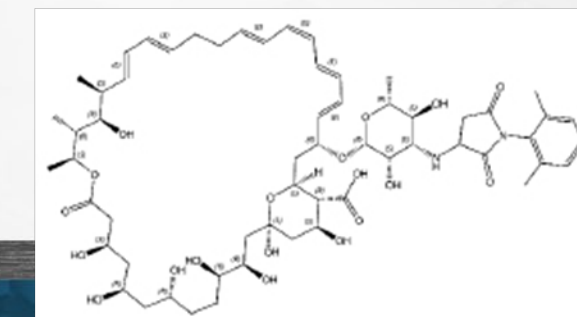
• 1/2 Ca



Absolute stereochemistry shown
E/Z labels describe double bond geometry

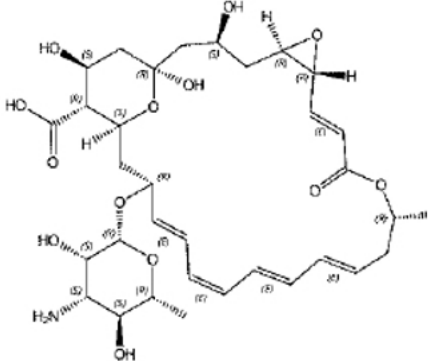


Absolute stereochemistry shown
E/Z labels describe double bond geometry



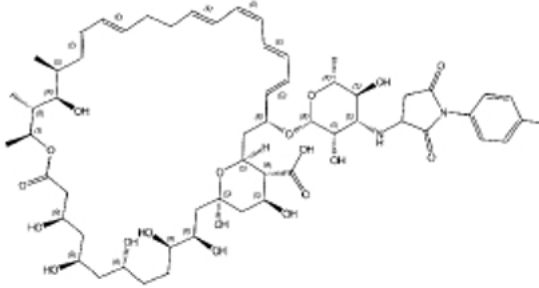
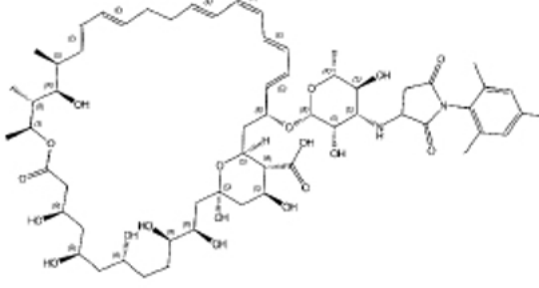
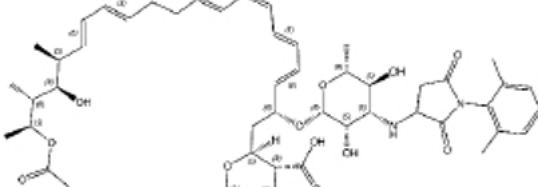
Absolute stereochemistry shown
E/Z labels describe double bond geometry

Structure-centric view with reference count (whitespace)

Substance	Structure	Reference
<p>1 7681-93-8</p> <p>6,11,28-Trioxatricyclo[22.3.1.05,7]octacos-8,14,16,18,20-pentaene-25-carboxylic acid, 22-[(3-amino-3,6-dideoxy-β-D-mannopyranosyl)oxy]-1,3,26-trihydroxy-12-methyl-10-oxo-, (1R,3S,5R,7R,8E,12R,14E,16E,18E,20E,22R,24S,25R,26S)- (CA INDEX NAME)</p>	 <p>Absolute stereochemistry shown E/Z labels describe double bond geometry</p>	<p>natamycin-contg. antimicrobial compn. for food use Reference 1</p> <p>modified-atm. meat- and cheese-contg. food products for refrigerated storage Reference 2</p> <p>natamycin as antimycotic preservative on cheese and fermented sausages Reference 3</p> <p>dry copolymer formulations and dispersions suitable for surface preservation treatment of foods such as cheeses and meats or as glues for tags on foods Reference 4</p> <p>dry copolymer formulations and aq. dispersions suitable for surface preservation treatment of foods such as cheeses and meats or as glues for tags on foods Reference 4</p> <p>automated treatment of shredded cheese</p>


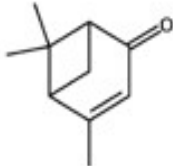
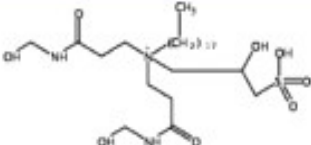

Index of Hit Structures
shows each structure
once with links to all
matching publications

Vs.

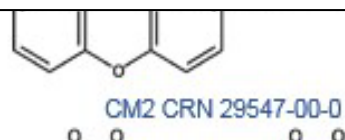
<p>2 1454835-61-0</p>	 <p>Absolute stereochemistry shown E/Z labels describe double bond geometry</p>	<p>semisynthetic derivs. of nystatin A1 Reference 1</p>
<p>2 1454835-62-1</p>	 <p>Absolute stereochemistry shown E/Z labels describe double bond geometry</p>	<p>semisynthetic derivs. of nystatin A1 Reference 1</p>
<p>4 1454835-63-2</p>		<p>semisynthetic derivs. of nystatin A1 Reference 1</p>

Clearing the Path: Navigating the Realm of Freedom to Operate Patent Searches, Lucy Antunes and Britta Scheithauer, FIZ Karlsruhe, Tuesday afternoon at CEPIUG 15th Anniversary Conference!

Surveillance of Small Molecules: Index of Hit Structures

Substance	Structure	Reference
<p>1 2161401-82-5</p> <p>Sulfurous acid, compounds, sodium salt, compd. with 4,6,6-trimethylbicyclo[3.1.1]hept-3-en-2-one (1:1:1)</p>	<p>CM1 CRN 7631-90-5</p>  <p>• Na</p> <p>CM2 CRN 80-57-9</p> 	<p>crystn. of bisulfite derivs. of enantiom. enriched ver. Reference 1</p> <p>2. Title: Antivirulence C-Mannosides as Antibiotic-Sparing, Oral Therapeutics for Urinary Tract Infections</p> <p>Corporate Source: Missouri United States</p> <p>Abstract: Gram-neg. uropathogenic Escherichia coli (UPEC) bacteria are a causative pathogen of urinary tract infections (UTIs). Previously developed antivirulence inhibitors of the type 1 pilus adhesin, FimH, demonstrated oral activity in animal models of UTI but were found to have limited compd. exposure due to the metabolic instability of the O-glycosidic bond (O-mannosides). Herein, we disclose that compds. having the O-glycosidic bond replaced with potency. This new class of C-mannoside antagonists have significantly increased compd. exposure and, as a result, enhanced efficacy in mouse models of acute and chronic UTI.</p> <p>Source: Journal of Medicinal Chemistry (20161027) Vol. 59, No. 20, CODEN: JMCMAR, ISSN: 0022-2623, pp. 9390-9408</p> <p>Hyperlinks: https://pubs.acs.org/doi/abs/10.1021/acs.jmedchem.6b00948</p> <p>Notes Not seen in previous searches</p> <p>Index Terms: 1393671-31-2P (Cmpd. 38) 1393671-45-8P (Cmpd. 39) 1639335-16-2P (Cmpd. 40) 1639335-26-4P (Cmpd. 41) 2018335-56-1P (Cmpd. 1) 2018335-58-3P (Cmpd. 2) 2018335-62-9P (Cmpd. 3) 2018335-63-0P (Cmpd. 4) Biological Study (BIOL); Pharmacokinetics (PKT); Pharmacological Activity (PAC); Preparation (PREP); Synthetic Preparation (SPN); Therapeutic Use (THU); Uses (USES) (anti-virulence C-mannosides as antivirulence-sparing, oral therapeutics for urinary tract infections)</p>
<p>2 2160562-95-6</p> <p>1-Octadecanaminium, N,N-bis[3-[(hydroxymethyl)amino]-3-oxopropyl]-N-(2-hydroxy-3-sulfopropyl)-, chloride, sodium salt (1:1:1)</p>	 <p>• Cl⁻</p> <p>• Na</p>	<p>prepn. of se amide quate ammonium : hydroxyprop sulfonate as emulsifier Reference 2</p>
<p>3 2158317-14-5</p> <p>Index name</p>	<p>CM1 CRN 95737-68-1</p> 	<p>tank-mixed insecticide for controlling pest in rice</p>

A client focused display - exemplified compounds table display linked to citing publications
Maddy Marley, GSK, PIUG 2018 Annual Conference, Alexandria, VA, USA May 2018



Focus on Sequence Hits: Sequence Summary

	Title	Database	Probable Assignee	Sequence Summary			
				Sequence ID	% Identity	Length	Location
1	Sensitive bioassay for detecting agonists of the aryl hydrocarbon receptor	1a Patbase link	WISCONSIN ALUMNI RESEARCH FOUNDATION	US6432692-0001	97.35	1929	probable disclosure (not found by automated parsing)
		1b GQP link		US6432692-0002	97.04	1929	probable disclosure (not found by automated parsing)
		1c GQP link					
2	COMPOSITIONS AND METHODS FOR THE DIAGNOSIS AND TREATMENT OF TUMOR	2a Patbase link	GENENTECH INC	US20070224201-0515	100.00	4199	claim: 15; 16
		2b GQP link		JP2006516089-0515	100.00	4199	probable disclosure (not found by automated parsing)
		2c GQP link		CA2500687-0515	100.00	4199	claim: 1; 2; 3; 11; 12; 15; 16; 35; 36; 45; 46; 59; 76; 77; 92; 93; 97; 98; 101; 102; 105; 106; 109; 140
3	TUMOR MARKER OF USE THEREOF	3c GQP link	OF UNIV LVANIA	US20090274619-0042	100.00	4205	claim: 10; 19; 28; 36; 37; 45; 60
		3d GQP link		US20090047216-0042	100.00	4205	claim: 34; 37; 58; 68; 69
				EP1987160-0042	100.00	4205	probable disclosure (not found by automated parsing)

Custom Subtable shows detail from each record for a family, like the sequence hit details here.

Biologics Compliance - find sequences for approved drugs

- Searched Cortellis and PharmaProjects and exported results to the **Bizint Smart Charts Drug Development Suite**
- Combined and exported to **Bizint Smart Charts Reference Rows** to obtain a unique list

BizInt Smart Charts Reference Rows 5.4 - [O:\Departments\Patents\Paula\files_delete\NAS combined.chrr]

File Edit View Text Tools Options Reference Rows Window Help

Combined: Antibodies Approved in Europe : Cortellis and PharmaProjects

	Drug Name	Common Drug Name	Database	Originator Company	Target-based Action
1 a	trastuzumab	4D5	Cortellis from Clarivate Analytics	Genentech Inc	ErbB2 tyrosine kinase receptor inhibitor
1 b	trastuzumab	4D5	Citeline PharmaProjects	Roche	ErbB-2 antagonist
2	abciximab	abciximab	Citeline PharmaProjects	Johnson & Johnson	Alphavbeta3 integrin antagonist Beta2 integrin antagonist GPIIb IIIa receptor antagonist Integrin antagonist Platelet aggregation inhibitor
3 a	adalimumab	ABT-D2E7	Cortellis from Clarivate Analytics	MedImmune Ltd	Integrin alpha-4/beta-7 antagonist TNF alpha ligand inhibitor
3 b	adalimumab	ABT-			
4	adalimumab, Alvotech	adal			
5 a	adalimumab biosimilar, AbbVie/ Amgen/ Daiichi Sankyo	adal			
5 b	adalimumab, Amgen	adalimumab, Amgen	Citeline PharmaProjects	Amgen	Immunosuppressant Tumour necrosis factor alpha antagonist
6	adalimumab, Biocad	adalimumab, Biocad	Citeline PharmaProjects	Biocad	Immunosuppressant Tumour necrosis factor alpha antagonist
7 a	adalimumab biosimilar, Celltrion	adalimumab, Celltrion	Cortellis from Clarivate Analytics	Celltrion Inc	TNF alpha ligand inhibitor TNF binding agent
7 b	adalimumab, Celltrion	adalimumab, Celltrion	Citeline PharmaProjects	Celltrion	Immunosuppressant Tumour necrosis factor alpha

Identify Common Drug Name
finds records for the same drug
across multiple sources.

The Role of Patent Intelligence to Demonstrate New Active Substance Status: Applying our Skills to Answer Different Questions, Paula Juckes, UCB Pharma, Tuesday afternoon at CEPIUG 15th Anniversary Conference!

Focus on FTO: Not just a vanilla search report or, What is so important about ice cream?

Ice cream invention category	star rating
Grants	
Ice cream preparations and recipes and formulations	8 stars
Production, ice cream makers, mixing and containers	7 stars
ice cream storing cabinets - freezing	6 stars
Dispensing ice creams and cones	5 stars
Pending	
Ice cream preparations and production	4 stars
Production, makers, mixing and containers	3 stars
ice cream storing cabinets - freezing	2 stars
Dispensing ice creams and cones	1 stars
not in force	0 stars

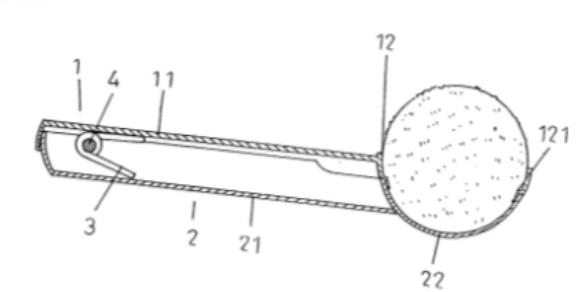


FIG. 5

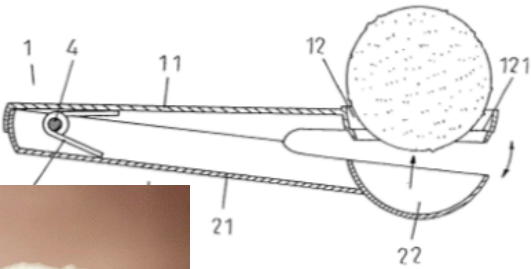


FIG. 6



FTO: Classify by Component Concepts

	Classification	Title	Patent Assignee (s)	Patent Number
1	8. Grant - Ice cream preparations and recipes and formulations	EXTRUDED PRODUCT POSITION CONTROL OF ICE CREAM PRODUCTS	TETRA LAVAL HOLDINGS AND FINANCE	US 10499662 B
2	8. Grant - Ice cream preparations and recipes and formulations	FUNCTIONAL ICE CREAM WITH LOW FAT CONTENT AND PROCESS FOR OBTAINING IT		
3	7. Grant - Production, ice cream makers, mixing and containers	STIRRING UNIT, MACHINE COMPRISING METHOD FOR MAKING LIQUID OR SEMI-SOLID ICE CREAM		
4	7. Grant - Production, ice cream makers, mixing and containers	ICE CREAM MAKER FITTING FOR A STAND KIT FOR A STAND MIXER AND STAND		
5	7. Grant - Production, ice cream makers, mixing and containers	MACHINE FOR THE PRODUCTION OF ICE CREAM		
6	7. Grant - Production, ice cream makers, mixing and containers	UNIT FOR RECEIVING AND TREATING BASIC PREPARATION FOR AN ICE CREAM		
7	6. Grant - ice cream storing cabinets - freezing	A COOLING DEVICE COMPRISING AN ICE CREAM STICK INSERTION DEVICE		
8	5. Grant - Dispensing ice creams and	ICE CREAM STICK INSERTION DEVICE AND METHOD FOR INSERTING A STICK		
9	5. Grant - Dispensing ice creams and	ICE CREAM STICK INSERTION DEVICE AND METHOD FOR INSERTING A STICK		
10	5. Grant - Dispensing ice creams and	ICE CREAM STICK INSERTION DEVICE AND METHOD FOR INSERTING A STICK		
11	5. Grant - Dispensing ice creams and	ICE CREAM STICK INSERTION DEVICE AND METHOD FOR INSERTING A STICK		
12	4. Pending - ice cream preparations and production	PECTIN-CONTAINING PLANT FIBER COMPOSITION FOR ICE CREAM		

Custom Thesaurus extracts the “stars” from notes made on patent search platforms and converts them to the matching key concepts

Combined Ice Cream Inventions

Title:	FUNCTIONAL ICE CREAM WITH LOW FAT CONTENT AND PROCESS FOR OBTAINING IT		
Patent Assignee (s):	STEFAN CEL MARE UNIV OF SUCEAVA		
Abstract:	Source: EP3944768 The invention is about a food product of a frozen dairy dessert type, with the role of a functional food, due to it multiple health benefits. Functional ice cream with low fat content, according to the invention, is obtained only from natural ingredients, without the addition of sugar or food additives, by a special freezing process. The obtaining of the functional ice cream with low fat content, according to the invention, consists: obtaining the ice cream mixture from whey cheese (urda), green walnut jam, walnut kernel oil, carrot fibers, ingredients which are mixed in a vat with stirrer and heating system, pasteurization of the resulting mix, homogenization, cooling and maturation, partial frozen through freezing, dosing in 100g corrugated cardboard boxes, hardened by freezing to a -20... 25 degrees centigrade temperature for 20 minutes and storage to minimum -18 degrees centigrade		
Family Status	Pub No.	State	Exp Date
Expiry:	RO 135425 A2	ALIVE	
	EP 3944768 B1	ALIVE	2040-08-10
	DE 602020008100 D1	ALIVE	
Selected Text:	From EP3944768B1 - Claims: 1. Functional ice cream with low fat content, characterized in that, for 100 kg finished product are necessary the following raw materials: an amount of 50 kg of whey cheese (urda?) from pasteurized cow's milk with 6 percent fat, an amount of 40 kg green walnut jam with 71.8 percent carbohydrates, an amount of 4 L walnut kernel cold-pressed oil with 100 percent lipids, an amount of 5 L lemon juice and an amount of 1 kg carrot fibers.		
Hyperlinks:	Source RO 135425 A2		

Title:	EXTRUDED PRODUCT POSITION CONTROL OF ICE CREAM PRODUCTS		
Patent Assignee (s):	TETRA LAVAL HOLDINGS AND FINANCE		

Focus on Key Patent Authorities: Filter by authority

	Enhanced Title	Probable Assignee	Database	Patent Family		
				Patent	Kind	Date
1	Combination of RNA encoding IL-2 or IL-7 and mRNA encoding a peptide or protein useful as in treating cancer.	BIONTECH RNA PHARMACEUTICALS GMBH	1a CortPat link	WO 2019154985	A1	2019-08-15
			1b Patbase link	AU 2019219200	A1	2020-08-06
2	COMPOSITIONS COMPRISING A COMBINATION OF AN ANTI-LAG-3 ANTIBODY, A PD-1 PATHWAY INHIBITOR, AND AN IMMUNOTHERAPEUTIC AGENT	BRISTOL MYERS SC				
3	Novel anti-B7H3 antibody agent that binds to B7H3 useful for treating cancer.	MEMORIAL SLOAN K				

Patent Family: Filtered		
Patent	Kind	Date
US 20210113606	A1	2021-04-22
WO 2019154985	A1	2019-08-15
WO 2018222711	A2	2018-12-06
US 10316093	B2	2019-06-11
US 20170240637	A1	2017-08-24
WO 2016033225	A2	2016-03-03
WO 2019183117	A1	2019-09-26
US 10150797	B2	2018-12-11
US 20160168207	A1	2016-06-16
US 20170218030	A1	2017-08-03
US 20190144508	A1	2019-05-16
US 9688729	B2	2017-06-27
WO 2015024668	A2	2015-02-26

Filter by Selected allows you to search and filter by matching items, such as just WO, EP, and US documents

Publication Level Surveillance: Updates in Blue

	Enhanced Title	Database	Probable Assignee	Patent Family			Row Status
				Patent	Kind	Date	
1	Polypeptides derived from the fusion protein of respiratory syncytial virus (RSV) and self-replicating RNA molecules encoding the polypeptides - useful for vaccination against RSV infections.	1a CortPat link 1b Patbase link	GLAXOSMITHKLINE PLC	CA 2768186	A1	2011-01-20	Updated
				WO 2011008974	A2	2011-01-20	
				WO 2011008974	A3	2011-04-28	
				TW 201116294	A	2011-05-16	
				AR 077757	AA	2011-09-21	
				US 2011305727	A1	2011-12-15	
				US 2012164176	A1	2012-06-28	
				US 2020172600	A1	2020-06-04	
				US 11261239	B2	2022-03-01	
				US 2022213177	A1	2022-07-07	
				US 2022340645	A1	2022-10-27	
				US 2022372115	A1	2022-11-24	
				US 11629181	B2	2023-04-18	
				US 11655284	B2	2023-05-23	
				SG 178026	A1	2012-03-29	
				EP 2453918	A2	2012-05-23	
				EP 2453918	B1	2015-12-16	
				EP 3178490	A2	2017-06-14	
				EP 3178490	A3	2017-08-30	
				EP 3178490	B1	2022-04-20	
				EP 3988115	A2	2022-04-27	
				EP 3988115	A3	2022-08-17	
				EP 4183412	A1	2023-05-24	
				EP 4218800	A1	2023-08-02	
				EP 4218799	A1	2023-08-02	

Publication Level Surveillance: New Publications

	Enhanced Title	Database	Probable Assignee	Patent Family			Row Status	New Publications
				Patent	Kind	Date		
1	Polypeptides derived from the fusion protein of respiratory syncytial virus (RSV) and self-replicating RNA molecules encoding the polypeptides - useful for vaccination against RSV infections.	1a CortPat link 1b Patbase link	GLAXOSMITHKLINE PLC	CA 2768186	A1	2011-01-20	Updated	CA 2768186 A1
				WO 2011008974	A2	2011-01-20		US 11261239 B2
				WO 2011008974	A3	2011-04-28		US 2022213177 A1
				TW 201116294	A	2011-05-16		US 2022340645 A1
				AR 077757	AA	2011-09-21		US 2022372115 A1
				US 2011305727	A1	2011-12-15		US 11629181 B2
				US 2012164176	A1	2012-06-28		US 11655284 B2
				US 2020172600	A1	2020-06-04		EP 3178490 B1
				US 11261239	B2	2022-03-01		EP 3988115 A2
				US 2022213177	A1	2022-07-07		EP 3988115 A3
				US 2022340645	A1	2022-10-27		EP 4183412 A1
				US 2022372115	A1	2022-11-24		EP 4218800 A1
				US 11629181	B2	2023-04-18		EP 4218799 A1
				US 11655284	B2	2023-05-23		DE 602010068211 D1
				SG 178026	A1	2012-03-29		ES 2918381 T3
				EP 2453918	A2	2012-05-23		TR 2022010502 T4
				EP 2453918	B1	2015-12-16		DK 3178490 T3
				EP 3178490	A2	2017-06-14		PT 3178490 T
				EP 3178490	A3	2017-08-30		LT 3178490 T
				EP 3178490	B1	2022-04-20		
				EP 3988115	A2	2022-04-27		
				EP 3988115	A3	2022-08-17		
				EP 4183412	A1	2023-05-24		
				EP 4218800	A1	2023-08-02		
				EP 4218799	A1	2023-08-02		

Update a chart with a newer chart to see **New Publications** showing which publications are new at the family level.

Publication Level Surveillance: New Publications, filtered

	Enhanced Title	Database	Probable Assignee	Patent Family			Row Status	New Publications	New Publications: Filtered
				Patent	Kind	Date			
1	Polypeptides derived from the fusion protein of respiratory syncytial virus (RSV) and self-replicating RNA molecules encoding the polypeptides - useful for vaccination against RSV infections.	1a CortPat link 1b Patbase link	GLAXOSMITHKLINE PLC	CA 2768186	A1	2011-01-20	Updated	CA 2768186 A1	EP 3178490 B1 US 11261239 B2 US 11629181 B2 US 11655284 B2
				WO 2011008974	A2	2011-01-20		US 11261239 B2	
				WO 2011008974	A3	2011-04-28		US 2022213177 A1	
				TW 201116294	A	2011-05-16		US 2022340645 A1	
				AR 077757	AA	2011-09-21		US 2022372115 A1	
				US 2011305727	A1	2011-12-15		US 11629181 B2	
				US 2012164176	A1	2012-06-28		US 11655284 B2	
				US 2020172600	A1	2020-06-04		EP 3178490 B1	
				US 11261239	B2	2022-03-01		EP 3988115 A2	
				US 2022213177	A1	2022-07-07		EP 3988115 A3	
				US 2022340645	A1	2022-10-27		EP 4183412 A1	
				US 2022372115	A1	2022-11-24		EP 4218800 A1	
				US 11629181	B2	2023-04-18		EP 4218799 A1	
				US 11655284	B2	2023-05-23		DE 602010068211 D1	
				SG 178026	A1	2012-03-29		ES 2918381 T3	
				EP 2453918	A2	2012-05-23		TR 2022010502 T4	
				EP 2453918	B1	2015-12-16		DK 3178490 T3	
				EP 3178490	A2	2017-06-14		PT 3178490 T	
				EP 3178490	A3	2017-08-30		LT 3178490 T	
				EP 3178490	B1	2022-04-20			
				EP 3988115	A2	2022-04-27			
				EP 3988115	A3	2022-08-17			
				EP 4183412	A1	2023-05-24			
				EP 4218800	A1	2023-08-02			
				EP 4218799	A1	2023-08-02			

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