



e-Scider Tutorial

Introduction

Count of literature in the biomedical databases is growing at a double-exponential pace; manual extraction of such relevant literature in a structured format is a highly laborious and time-consuming. Therefore, there is a tenacious need to assist the retrieval of scientific information with automated text mining tools. Here, we engineered “e-scider” (e-scientific data fetcher), a text-mining application to obtain the most relevant literature from PubMed database. e-scider provides an interactive user-friendly platform that enables users to retrieve and analyze information in various customized ways. As like PubMed, it assists the retrieval of article information like title, author(s) name, and abstract with highlighted query word. One of the most distinctive features of e-scider is to allow field-wise extraction of articles pertaining to various scopes of journals. Illustrating the current scenario of the field, it provides graphical representations of publication count in each journal, year and country for the given query. It also prioritizes the retrieved articles based on relevancy scores and categorized them into most, moderate and less relevant articles. Moreover, it enables users to download multiple full-text articles in a single platform for the given query. Thus, e-scider is an easy to use tool that aid in literature survey for the pre-stage researcher. The entire information was made available online where the user can access the data and downloads the results for future offline reading.

Availability: e-Scider and its manual can be freely accessible at <http://14.139.57.41/e-scider/>

Keywords: PubMed, e-scider, literature, extraction.

All required files are available @ <http://14.139.57.41/e-scider/>

Home Screen



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e-Scider is state of the art software solution developed for scientific community to easy access of raw data and extraction of informative knowledge from it.



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Browse Screen

e-scider
A tool kit for "scientists"

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Enter Key Word: [Search](#) [Evaluate](#)

Our server retrieves records for your query

Batch operations for paid and free articles [CLICK HERE](#)

[Algorithm based retrieval](#)

Upload text file:
 No file selected.

Upload text file:
 No file selected.

[Paid articles with information like Title, Abstract etc...](#) [CLICK HERE](#)

[Free full text articles in pdf](#) [CLICK HERE](#)

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Fig 1. Home Screen

There is global panel just below the navigation bar. To get the number of records available for the topic of interest. Enter keyword "hPXR" at upper horizontal input field and click Search button.

(hPXR: human Pregnan X Receptor is a protein)



Enter Key Word:

Our server retrieves 178 records for your query

Batch operations for paid and free articles

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Algorithm based retrieval

Upload text file:

Browse... No file selected.

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Fig 2. Showing number of articles for the given keyword "hPXR"

Now click on evaluate button to get publication trend for hPXR journal-wise, year-wise, country-wise.

BR J PHARMACOL	2
CANCER RES	2
J MED CHEM	2
PHARMACOL RES	2
YAO XUE XUE BAO	2
J CLIN PHARMACOL	2
ENVIRON HEALTH PERSPECT	2
TOXICOLOGY	2
CHEM RES TOXICOL	2
PLOS ONE	2
MAR DRUGS	2
ANAL BIOANAL CHEM	2
BIOCHEM J	2
PHARM RES	2
DRUG DISCOV TODAY	2
TOXICOL IN VITRO	2
J BIOCHEM MOL TOXICOL	2

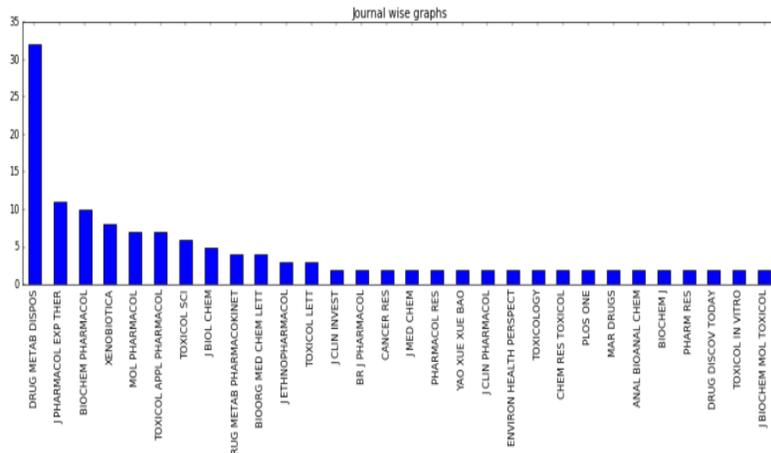


Fig 3. Journal-wise number of publications for the keyword “hPXR”

2007	14
2004	14
2011	13
2010	13
2016	11
2012	11
2015	10
2008	10
2009	9
2003	8
2002	4
2005	4
2001	3
1998	2
2000	2
1999	1

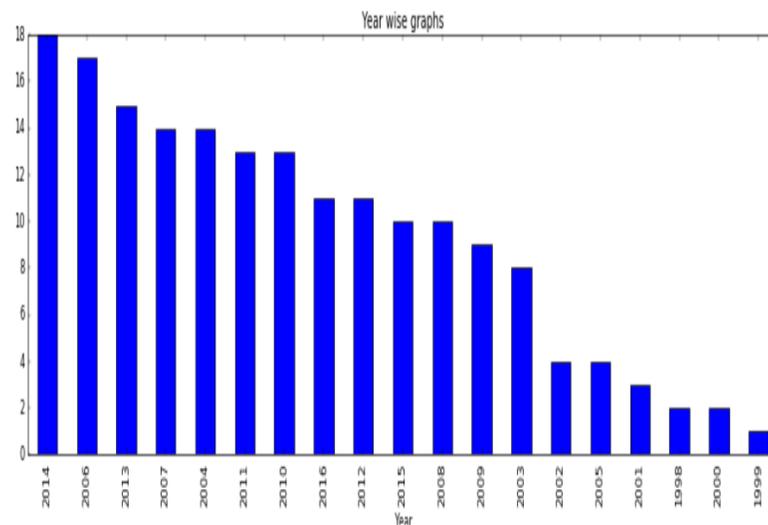


Fig 4. Year-wise number of publications for the keyword “hPXR”

Location	Number of atricles
UNITED STATES	102
ENGLAND	40
NETHERLANDS	9
CHINA	6
GERMANY	6
IRELAND	5
JAPAN	5
SWITZERLAND	3
NOT AVAILABLE	2
UNITED ARAB EMIRATES	1

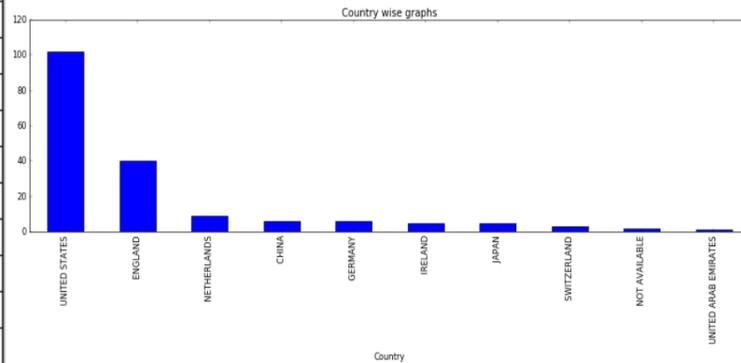


Fig 5. Country-wise number of publications for the keyword “hPXR”

Click on “**Batch operations for paid and free articles**” bar to open “**Algorithm based retrieval**” panel. The 'Algorithm panel', needs two separate text files containing keywords against which articles are required to be fetched as inputs. It implements a data mining algorithm in order to prioritize the retrieved articles into most, moderate and less read categories.

Enter Key Word:

Our server retrieves records for your query

Batch operations for paid and free articles
[CLICK HERE](#)

Algorithm based retrieval

Ⓢ Upload text file:

No file selected.

Ⓢ Upload text file:

No file selected.

Paid articles with information like Title, Abstract etc...
[CLICK HERE](#)

Free full text articles in pdf
[CLICK HERE](#)

Fig 6. “Algorithm based retrieval” panel

Browse two text files file1 and file2 containing the keyword for the retrieval of articles

Enter Key Word:

Our server retrieves records for your query

Batch operations for paid and free articles

[CLICK HERE](#)

Algorithm based retrieval

Upload text file:

Browse... file1.txt

Upload text file:

Browse... file2.txt

Find

Paid articles with information like Title, Abstract etc...

[CLICK HERE](#)

Free full text articles in pdf

[CLICK HERE](#)

Fig 7. Browsed files

Then click “**Find**” button

Article Number: 2
Relevance: ', 'Moderate Read Article
Title: ', 'Activation of the Constitutive Androstane Receptor by Monophthalates.
Author: ', "[Laurenzana, Elizabeth M', 'Coslo, Denise M', 'Vigilar, M Veronica', 'Roman, Anthony M', 'Omiecinski, Curtis J']
Abstract: ', 'Humans in industrialized areas are continuously exposed to phthalate plasticizers, prompting concerns of their potential toxicities. Previous studies from our laboratory and others have shown that various phthalates activate several mammalian nuclear receptors, in particular the constitutive androstane receptor (CAR), the pregnane X receptor (PXR), and the peroxisomal proliferator-activated receptors (PPARs), although often at concentration levels of questionable relevance to human exposure. We discovered that di(2-ethylhexyl) phthalate (DEHP) and di-isonyl phthalate (DiNP), two of the highest volume production agents, were potent activators of human CAR2 (hCAR2), a unique human CAR splice variant and, to a lesser degree, human PXR (hPXR). These diphthalates undergo rapid metabolism in mammalian systems, initially to their major monophthalate derivatives MEHP and MiNP. Although MEHP and MiNP are reported activators of the rodent PPARs, with lower affinities for the corresponding human PPARs, it remains unclear whether these monophthalate metabolites activate hCAR2 or hPXR. In this investigation, we assessed the relative activation potential of selected monophthalates and other low molecular weight phthalates against hCAR, the most prominent hCAR splice variants, as well as hPXR and human PPAR. Using transactivation and mammalian two-hybrid protein interaction assays, we demonstrate that these substances indeed activate hCARs and hPXR but to varying degrees. MEHP and MiNP exhibit potent activation of hCAR2 and hPXR with higher affinities for these receptors than for the hPPARs. The rank order potency for MEHP and MiNP was hCAR2 > hPXR > hPPARs. Results from primary hepatocyte experiments also reflect the MEHP and MiNP upregulation of the respective human target genes. We conclude that both di- and monophthalates are potently selective hCAR2 activators and effective hPXR activators. These results implicate these targets as important mediators of selective phthalate effects in humans. The striking differential affinities for these compounds between human and rodent nuclear receptors further implies that biological results obtained from rodent models may be of only limited relevance for interpolating phthalate-mediated effects in humans.
Source: ', 'Chem Res Toxicol. 2016 Sep 13.
Article identifier: ', "[10.1021/acs.chemrestox.6b00186 [doi]]
Pubmed Central Identifier: ', 'Not Available
Keyword: ', 'human found in abstract of hpxr paper

Export Results

Fig 8. Showing result page for algorithm tab

Click on “Export Results” button to export all results in excel sheet for further offline reading

Article Number: 2

Relevance: ', 'Moderate Read Article

Title: ', 'Activation of the Constitutive Androstane Receptor by Monophthalates.

Author: ', '["Laurenzana, Elizabeth M', 'Coslo, Denise M', 'Vigilar, M Veronica', 'Roman, Anthony M', 'Omiecinski, Curtis J']

Abstract: ', 'Humans in industrialized areas are continuously exposed to phthalate plasticizers, prompting concerns of their potential toxicities. Previous studies from our laboratory and others have shown that various phthalates activate several mammalian nuclear receptors, in particular the constitutive androstane receptor (CAR), the pregnane X receptor (PXR), and the peroxisomal proliferator-activated receptors (PPARs), although often at concentration levels of questionable relevance to human exposure. We discovered that di(2-ethylhexyl) phthalate (DEHP), the highest volume production agents, were potent activators of human CAR2 (hCAR2), a unique human CAR splice variant in mammalian systems, initially to their major monophthalate derivative, diethylhexyl phthalate (DEHP). These diphthalates undergo rapid metabolism and are reported activators of the rodent PPARs, with lower affinities for the corresponding human PPARs, it remains unclear whether they activate hCAR2 or hPXR. In this investigation, we assessed the relative activation potential of selected monophthalate variants, as well as hPXR and human PPAR. Using transactivation assays, we demonstrate that these substances indeed activate hCARs and hPXR but to varying degrees. MEHP and hPXR with higher affinities for these receptors than hPXR. The rank order potency for MEHP and MiNP were also reflected in hepatocyte experiments also reflect the MEHP and MiNP upregulation of the respective human target genes. We demonstrate that MEHP is a highly selective hCAR2 activator and effective hPXR activator. These results implicate these targets as important molecular targets between human and rodent nuclear receptors further implies that the striking differential affinities for these compounds may be of only limited relevance for interpolating phthalate-mediated effects in humans.

Source: ', 'Chem Res Toxicol. 2016 Sep 13.

Article Identifier: ', '["10.1021/acs.chemrestox.6b00186 [doi]]

Pubmed Central Identifier: ', 'Not Available

Keyword: ', 'human found in abstract of hpxr paper

Export Results

Fig 9. Showing saving panel for results

1	Relevance	Title	Author	Abstract	Source	Article Identifier	Pubmed Central Identifier	Key word found	Article category
2	Moderate Read Article	In vitro Effects of Four Nat	["Mazzari, Andre L D A'	Erythrina mulungu Front Pharmacol.	20	["10.3389/fphar	PMC4991120	human found in title of hpxr moderate read article	
3	Moderate Read Article	Activation of the Constituti	["Laurenzana, Elizabeth	Humans in industr Chem Res Toxicol.	2	["10.1021/acs.c	Not Available	human found in title of hpxr moderate read article	
4	Moderate Read Article	Rifampin-Mediated Induct	["Chang, Jae H', 'Chen,	Animals are not co Drug Metab Dispos.		["dmd.116.0721	Not Available	human found in title of hpxr moderate read article	
5	Moderate Read Article	In silico investigation of ag	["Zhang, Yi-Ming', 'Char	The human pregn J Huazhong Univ Sci		["10.1007/s1151	Not Available	human found in title of hpxr moderate read article	
6	Moderate Read Article	Human Xenobiotic Nuclear	["Bhagyaraj, Ella', 'Nanc	Mycobacterium tu J Immunol.	2016 Jul	["Jimmunol.160	Not Available	human found in title of hpxr moderate read article	
7	Moderate Read Article	Differences in Gene Regul	["Kanno, Yuichiro', 'Tan	The constitutive ar Drug Metab Dispos.		["dmd.116.0708	Not Available	human found in title of hpxr moderate read article	
8	Moderate Read Article	Accessing the molecular in	["Sarith Josh, M K', 'Pr	Phthalates are kno J Appl Toxicol.	2016	["10.1002/jat.33	Not Available	human found in title of hpxr moderate read article	
9	Moderate Read Article	Indirubin, a component of	["Kumagai, Takeshi', 'Ar	Ban-Lan-Gen is the Drug Metab Pharma		["S1347-4367(1	Not Available	human found in title of hpxr moderate read article	
10	Moderate Read Article	Classification of Human Pr	["Rathod, Vijay', 'Belek	The Human Pregn Comb Chem High Th		["CCHTS-EPUB-7	Not Available	human found in title of hpxr moderate read article	
11	Moderate Read Article	Tryptophan 299 is a conse	["Banerjee, Monimoy',	PXR is a xenobiotic Biochem Pharmacol.		["S0006-2952(1	PMC4778391	human found in title of hpxr moderate read article	
12	Moderate Read Article	[Effects of SUMO specific	["Li, Ying-mei', 'Xu, Chei	The study aimed to Yao Xue Xue Bao.	20	Not Available	Not Available	human found in title of hpxr moderate read article	
13	Moderate Read Article	Threonine-408 Regulates	["Sugtani, Junko', 'Nog	The human pregn Drug Metab Dispos.		["dmd.115.0663	Not Available	human found in title of hpxr moderate read article	
14	Moderate Read Article	Genome-wide analysis of	["Li, Daochuan', 'Mack	The constitutive ar Biochem Pharmacol.		["S0006-2952(1	PMC4600658	human found in title of hpxr moderate read article	
15	Moderate Read Article	3-Hydroxyflavone and str	["Lau, Aik Jiang', 'Chang	Pregnane X recept Pharmacol Res.	201	["S1043-6618(1	Not Available	human found in title of hpxr moderate read article	
16	Moderate Read Article	Pregnane X Receptor-Hum	["Spruiell, Krisstonia',	Both human and r J Pharmacol Exp Ther		["jpet.115.2242	PMC4538875	human found in title of hpxr moderate read article	
17	Moderate Read Article	Serine 350 of human pregn	["Wang, Yue-Ming', 'Ch	The human pregn Biochem Pharmacol.		["S0006-2952(1	PMC4526351	human found in title of hpxr moderate read article	
18	Moderate Read Article	Transcriptional Regulation	["Chen, Qun', 'Xie, Hai-	Objective. This stu Evid Based Compl		["10.1155/2015/	PMC4421101	human found in title of hpxr moderate read article	
19	Moderate Read Article	Involvement of CAR and P	["Xu, Cong', 'Luo, Meng	1. Induction of hep Xenobiotica.	2015;4	["10.3109/0049	Not Available	human found in title of hpxr moderate read article	
20	Moderate Read Article	Mg2+/Mn2+-dependent pl	["Pondugula, Satyanara	Variations in the e Drug Metab Dispos.		["dmd.114.0620	Not Available	human found in title of hpxr moderate read article	
21	Moderate Read Article	Diindolylmethane, a natur	["Pondugula, Satyanara	Activation of hum Toxicol Lett.	2015	["S0378-4274(1	PMC4568078	human found in title of hpxr moderate read article	
22	Moderate Read Article	Nigramide J is a novel pote	["Kanno, Yuichiro', 'Tan	The constitutive ar Pharmacol Res Pers		["10.1002/prp.2	PMC4186399	human found in title of hpxr moderate read article	
23	Moderate Read Article	Echinacea purpurea up-reg	["Awortwe, Charles', 'M	1. This study invest Xenobiotica.	2015	["10.3109/0049	PMC4355449	human found in title of hpxr moderate read article	
24	Moderate Read Article	Effects of co-treatment wi	["Wang, Min', 'Zhu, Jing	Sulforaphane (SFN Oncol Lett.	2014	Dei	["10.3892/ol.20	PMC4214451	human found in title of hpxr moderate read article
25	Moderate Read Article	Resveratrol suppresses th	["Deng, Rongrong', 'Xu,	The pregnane X re J Pharmacol Sci.	201	["DN/JST.JSTAGE	Not Available	human found in title of hpxr moderate read article	
26	Moderate Read Article	Thiazide-like diuretic drug	["Banerjee, Monimoy',	Human pregnane B Biochem Pharmacol.		["S0006-2952(1	PMC4252478	human found in title of hpxr moderate read article	
27	Moderate Read Article	Interactions of Papua New	["Larson, Erica C', 'Hath	ETHNOPHARMACC J Ethnopharmacol.	2	["S0378-8741(1	PMC4247785	human found in title of hpxr moderate read article	
28	Moderate Read Article	Threonine-290 regulates n	["Sugtani, Junko', 'Hat	The human pregn Drug Metab Dispos.		["dmd.114.0591	Not Available	human found in title of hpxr moderate read article	

Fig 10. Excel sheet containing results from algorithm panel

To get articles category/scope wise, journal wise, year wise Click on “**Paid articles with information like Title, Abstract etc...**” bar to open panel which contains three buttons “**All articles**”, “**Article Journal & Year wise**”, “**Articles in between years**”.

Click on “**All articles**” button to open panel; enter key word and select category

Enter Key Word:

Our server retrieves records for your query

Batch operations for paid and free articles [CLICK HERE](#)

Paid articles with information like Title, Abstract etc... [CLICK HERE](#)

Key Word:

Select category(s):

Free full text articles in pdf [CLICK HERE](#)

Fig 11. All articles panel

Then click “**Extract Knowledge**” button to get results containing article information.

Click “**Articles Journal & Year wise**” button to open panel and enter information like keyword, name of journal, number of records to be fetch and year.

Enter Key Word: [Search](#) [Evaluate](#)

Our server retrieves records for your query

Batch operations for paid and free articles

[CLICK HERE](#)

Paid articles with information like Title, Abstract etc...

[CLICK HERE](#)

All articles

Articles Journal & Year wise

Articles in between years

Key Word:

Number of Records:

Journal Name:

Year:

Extract Knowledge

Free full text articles in pdf

[CLICK HERE](#)

Fig 12. Articles Journal & Year wise

User can also Click “Articles in between years” button to get required articles in between years for the given keyword e.g. from 2010 to 2016.

Enter Key Word: [Search](#) [Evaluate](#)

Our server retrieves records for your query

Batch operations for paid and free articles

[CLICK HERE](#)

Paid articles with information like Title, Abstract etc...

[CLICK HERE](#)

All articles

Articles Journal & Year wise

Articles in between years

Key Word:

Number of Records:

Year from:

Year upto:

Extract Knowledge

Free full text articles in pdf

[CLICK HERE](#)

Fig 13. Articles in between years

Click extract knowledge button to get records

Article Number: 2
Title: Nanominerals, mineral nanoparticles, and Earth systems.
Authors: ['Hochella, Michael F Jr', 'Lower, Steven K', 'Maurice, Patricia A', 'Penn, R Lee', 'Sahai, Nita', 'Sparks, Donald L', 'Twining, Benjamin S']
Affiliation: Center for NanoBioEarth, Department of Geosciences, Virginia Polytechnic Institute and State University (Virginia Tech), Blacksburg, VA 24061-0420, USA. hochella@vt.edu
Abstract: Minerals are more complex than previously thought because of the discovery that their chemical properties vary as a function of particle size when smaller, in at least one dimension, than a few nanometers, to perhaps as much as several tens of nanometers. These variations are most likely due, at least in part, to differences in surface and near-surface atomic structure, as well as crystal shape and surface topography as a function of size in this smallest of size regimes. It has now been established that these variations may make a difference in important geochemical and biogeochemical reactions and kinetics. This recognition is broadening and enriching our view of how minerals influence the hydrosphere, pedosphere, biosphere, and atmosphere.
Source: Science. 2008 Mar 21;319(5870):1631-5. doi: 10.1126/science.1141134.
Article Identifier: ['319/5870/1631 [pii]', '10.1126/science.1141134 [doi]']
Publication History: Not Available
Publication Type: ['Journal Article', 'Research Support, Non-U.S. Gov't', 'Research Support, U.S. Gov't, Non-P.H.S.', 'Review']
Pubmed Central Identifier: Not Available

Analyze
Export Results

Fig 14. Results for articles in between years

Then click on Analyze button to get publication trend for given key word.

To get freely available full text articles in pdf format, click on “**Free full text articles in pdf**” bar.

It is used to fetch multiple full-text articles in pdf format for the user given keyword in a single click downloadable in zip folder. The search can be further customized with the options like; 1) date & relevance wise: where user has to enter keyword, number of articles to be required and select retrieval method date wise or relevance wise.

Enter Key Word: [Search](#) [Evaluate](#)

Our server retrieves records for your query

Batch operations for paid and free articles

Paid articles with information like Title, Abstract etc...

Free full text articles in pdf

[CLICK HERE](#)

[CLICK HERE](#)

[CLICK HERE](#)

Articles date & relevance wise

Articles in between years

Key Word:

Number of Records:

Retrieve record according to : Date
Date
Most cited

Retrive Articles

Fig 15. Articles date & relevance wise

2) In between years: helps to retrieve articles publish in between years (e.g. from 2012 to 2016)

Enter Key Word: [Search](#) [Evaluate](#)

Our server retrieves records for your query

Batch operations for paid and free articles

Paid articles with information like Title, Abstract etc...

Free full text articles in pdf

[CLICK HERE](#)

[CLICK HERE](#)

[CLICK HERE](#)

Articles date & relevance wise

Articles in between years

Key Word:

Number of Records:

Year from:

Year upto:

Retrive Articles

Fig 15. Articles date & relevance wise



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The e-scider related resources were developed and maintained by the Data Mining and Pattern Recognition group, at Department of Pharmacoinformatics, National Institute of Pharmaceutical Education and Research (NIPER), Mohali, India.

For any Improvements/Querys/Comments/Suggestions please mail us @

Sujit Tangadpalliwar

✉ scientificdatafetcher@gmail.com

Thank you

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Fig 16. Contact us page

Thank you