

8. Query Type 5: LIPID MAPS ID (LM ID) or List of LM IDs

This option is available only in General Lipidome MS-LAMP search window. LIPID MAPS ID (LM ID) is a unique identifier designated by LIPID MAPS Consortium (www.lipidmaps.org) to every lipid and this has been adopted in General Lipidome MS-LAMP database. Currently as on Feb 2012 only 57 lipids (47 FA, 5 PK, and 5 PR) in *Mycobacterium tuberculosis* database (<http://mrl.colostate.edu>) have been designated with LM IDs. Therefore, this Query Type is meant for General Lipidome MS-LAMP only.

There are two different ways to submit a query:

1. Option 1: Single LM ID
2. Option 2: List of LM IDs

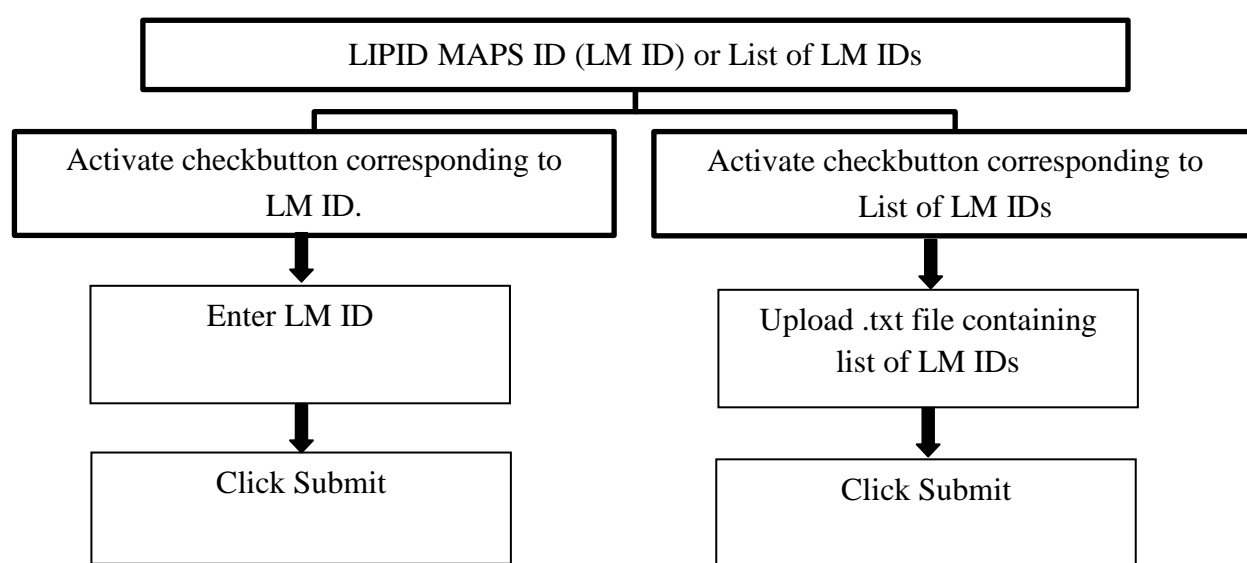
A flowchart describing the steps to use this option is shown in [Scheme 8.1](#).

Single LM ID can be entered by first activating the check-button respective to LM ID and then the LM ID of a lipid needs to be entered in the space provided, as depicted in [Figure 8.1b option 1](#). A text file containing list of LM IDs also can be uploaded as shown in [Figure 8.1b option 2](#). Different parts of the input window are explained in the following:

- (a) **Title bar:** This bar gives information about the query window and the selected lipid database in use.
- (b) **LM ID Query options:** As shown in [Figure 8.1](#), for making query of LM ID(s) two different options have been provided. To enter a single LM ID query, option 1 can be used, whereby the ID can be entered in the provided text box after clicking the “**LM ID**” check-button. In order to input list of LM IDs, a text file containing list of the same, each separated by a new line, can be uploaded. In an attempt, only one option can be used to submit the query.
- (c) **Submit:** By clicking this button the above selected parameters are entered as input to the programme.

[Figure 8.2](#) shows snapshot of ‘Result of the Query’ window obtained on using option 1, i.e., Single LM ID query; while [Figure 8.3](#) shows output details when lipids are queried utilizing option 2, i.e., list of LM IDs.

To view molecular structure of lipid(s) obtained as result of the query through option 1, the output window contains a button (as shown in [Figure 8.2](#)) that can be clicked to view the corresponding structure. On following option 2 to input query, [Figure 8.4](#) shows the way to view molecular structure of lipids.



Scheme 8.1: Flowchart explaining to input **Query Type 5:** LIPID MAPS ID (LM ID) or List of LM IDs

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Query type 5 : LIPID MAPS ID (LM ID) / List of LM IDs

For example, LMSP01020001 corresponds to Sphinganine, a Sphingolipid [SP]

☒ LM ID ☐ List of LM IDs

Enter LM ID

LMFA01010040 (b) Option 1

☐ LM ID ☒ List of LM IDs

Upload a text file containing list of LM ID

Click here to upload file (b) Option 2

SUBMIT (c)

Figure 8.1: Snapshot of input window of “Query Type 5: LIPID MAPS ID (LM ID) / List of LM IDs”. (a) Title Bar (b) Two different options available for making this query: Option 1, Single LM ID and Option 2, List of LM IDs (c) To submit the query. In an attempt, only one option can be used to input query.

Details of Queried LM ID : LMSP01020001

LM ID :	LMSP01020001
M-Monoisotopic (db)* :	301.298079
M-Average (db)* :	301.50928
Common name :	Sphinganine
Scientific name :	Sphinganine
Category :	Sphingolipids [SP]
Main class :	Sphingoid bases [SP01]
Sub class :	Sphinganines [SP0102]
Structure	Click to view the structure of LMSP01020001

To print the whole result , choose the output format (more than one allowed)

☐ .csv ☐ .txt ☐ .xls

[Click Here to Start Search Again](#)

Figure 8.2: Snapshot of 'Result of the query' window on submitting query through Option 1: Details corresponding to the queried LM ID are enlisted.

Result of the Query

Uploaded Filename : C:/Users/Dell/Desktop/List_of_LM IDs.txt

Fatty Acyls : 9

Glycerolipids : 0

Glycerophospholipids : 0

Polyketides : 0

Prenol Lipids : 4

Saccharolipids : 0

Sphingolipids : 3

Sterol Lipids : 0

To print the whole result , choose the output format (more than one allowed)

☐ .csv ☐ .txt ☐ .xls

[Click Here to Start Search Again](#)

Figure 8.3: Snapshot of ‘Result of the query’ window while entering the input through Option 2: A glimpse of different lipid categories and number of lipids in each category that match to the list of LM IDs submitted in a .txt file as query, are displayed.

7% MS - LAMP - General Lipidome MS-LAMP- Result of the Query : List of LM IDs Queried

Result of the Query

Uploaded Filename : C:/Users/Dell/Desktop/List_of_LM IDs.txt

Fatty Acyls : 9

Glycerolipids : 0

Glycerophospholipids : 0

Polyketides : 0

Prenol Lipids : 4

Sterol Lipids : 0

Click on LM ID button to view molecular structure in ChemSketch

LMPR0104010019	LMPR0103060015	LMPR0103140001	LMPR0103450001
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To print the whole result , choose the output format (more than one allowed)

☐ .csv ☐ .txt ☐ .xls

Click Here to Start Search Again

Figure 8.4: Figure showing snapshot of the window containing LM ID buttons obtained from 'Result of the Query' window (shown in [Figure 8.3](#)). These LM ID buttons can be clicked to view molecular structure of lipids. ([Refer section 4](#) for more details on this).