

Search methods

1) Search by navigation bar

Ribocentre-switch

Home Riboswitches Orphan riboswitches Sequences Structures Binding pockets Applications Publications Help



2) Search by sequence

Results

Search by sequence

Powered by RNacentral | Local alignment using nhmmер

Job id: a945ef2f-91be-48ab-93e9-88e88d20858e

CUGCACGGGGAGGCUGUGAUCCGCCGGACGUACCGACUGCGGCCACCGCAGUCGGGGGGGAGCCACUUGGUGAGACCGGGCCCCGAAG

Search Clear

Search by sequence

Powered by RNacentral | Local alignment using nhmmер

Job id: a945ef2f-91be-48ab-93e9-88e88d20858e

CUGCACGGGGAGGCUGUGAUCCGCCGGACGUACCGACUGCGGCCACCGCAGUCGGGGGGGAGCCACUUGGUGAGACCGGGCCCCGAAG

Search Clear Upload file Up to 50 queries

Examples: c-di-GMP-II-GAG riboswitch TPP riboswitch (THI element)

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Rfam classification

Family	Accession	Start	End	Bit score	E-value	Strand	Alignment
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3) Search by the key word

Search by text

THF

X

Quick links: Riboswitches Sequences THF Teams



找到约 3 条结果 (用时 0.36 秒)

Relevan ce

THF	riboswitch.rbcn.org › docs › THF
2023年4月5日 ... Tetrahydrofolate riboswitches are a class of homologous RNAs in certain bacteria that bind tetrahydrofolate (THF). It is almost exclusively ...	
Riboswitches - Sequences	riboswitch.rbcn.org › sequences
THF-I, RF01831, Download - pre01-III, RF02680, Download ... THF-II, RF02977, Download - NAD+-I, RF03013, Download - Li+-II, RF03038, Download.	
Structure - Structure	riboswitch.rbcn.org › structures
THF - 3SUY, 101, Crystal structure of THF riboswitch, unbound status, (Eubacterium) siraeum V10Sc8a, MR, X-RAY DIFFRACTION, 3.21 Å, 2011, Proc Natl Acad Sci ...	

 在 Google 上搜索 THF



Download function

1) Download by ligand

Riboswitches

Riboswitches are structured noncoding RNA domains which are typically embedded in messenger RNAs in many bacteria, where they monitor the concentrations of their target ligands and regulate gene expression accordingly. Typically, riboswitches are composed of two parts: an aptamer that senses the target ligand and an expression platform that directly interfaces with components of the cell that affect gene expression. In the past 20 years, more than 55 riboswitch classes have been experimentally validated and the ligands they sense comprise a diverse list of biologically relevant compounds including fundamental metabolites derived from RNA nucleotides or their precursors, amino acid, elemental ions and et al. For more detailed information about each riboswitches, please browse the table below and click on each riboswitch name.

CofactorsRNA derivativesRNA precursorsSignaling moleculesElemental ionsAmino acidsSugarsT-box

RNA derivatives

Name	Ligand	Description	Discovery
		Carrying an aptamer domain similar in sequence and secondary structure to the guanine riboswitch, the 2'-dG-I riboswitch	

✓ Select an option

- Cofactors
- RNA derivatives
- RNA precursors
- Signaling molecules
- Elemental ions
- Amino acids
- Sugars
- T-box
- Others

Download

2) Download by selection

The figure shows a screenshot of the Ribocentre-switch application. On the left, there is a search results table for 'Riboswitch name' with two entries: 'FMN riboswitch' and 'FMN riboswitch'. The table includes columns for 'Description', 'First author', 'Corresponding author', 'Time', 'reference', and 'Journal'. A large hand icon points to the 'Download linker' button for the first entry. On the right, there is a pie chart titled 'Experimental Methods' showing the distribution of various techniques. The chart is divided into several segments: X-ray (72), Heavy atom (54), Ir (28), Cs (4), Br (9), Os (3), SAD-Se-U1A (3), Co (2), Ba (1), Se (1), Sr (1), MIRAS-Ir, Co, I, 1, MIRAS-Os, I, 1, and Simple MR (11). A large hand icon points to the 'Download Figure' button at the bottom right.

Riboswitch name	Description	First author	Corresponding author	Time	reference	Journal
FMN riboswitch	This paper identified a novel series of flavin analogs that are potent and highly selective <i>C. difficile</i> antibacterial compounds. Among them, 5FQD could prevent lethal CDI in mice without disrupting the regrowth of beneficial flora.	Kenneth F. Blount	Ronald R. Breaker	2015	Novel Riboswitch-Binding Flavin Analog That Protects Mice against <i>Clostridium difficile</i> Infection without Inhibiting Cecal Flora	Antimicrobial Agents and Chemotherapy
FMN riboswitch	In this paper, a series of riboflavin derivatives were designed, synthesized and screened for their antibacterial activity. Some of these compounds showed significant anti-tuberculosis activity against Mycobacterium tuberculosis.	Bhaiyyasabha Harale	Ambadas B. Rode	2021	Synthesis and Evaluation of Antimycobacterial Activity of Riboflavin Derivatives	Biorganic & Medicinal Chemistry Letters

About sequence in Riboswitch database
The table below presents the complete collection of currently available sequences from RNACentre. Click 'download' to obtain the desired target sequence.

Name	Rfam ID	Download linker	Name	Rfam ID	Download linker	Name	Rfam ID	Download linker
FMN	RF00050	Download	PreQ1-II	RF01054	Download	SAM-V	RF01826	Download
TPP	RF00059	Download	MoCo	RF01055	Download	THF-I	RF01831	Download
Mn2+	RF00080	Download	Me2+-II	RF01056	Download	preQ1-III	RF02680	Download
SAM-I	RF00162	Download	SAH	RF01057	Download	NiCo	RF02683	Download

[Download Figure](#)

Feedback function

The diagram illustrates the workflow for submitting feedback. On the left, a screenshot of a feedback form shows a button labeled "Click here to submit feedback". A mouse cursor is clicking this button. A large black arrow points from this action to the right side of the diagram. On the right, a screenshot of a Google Sheets document titled "Riboswitch commit" is shown. The sheet has a header row with columns labeled "Name", "description", "Discovery", "Rfam-name", and "Rfam-ID". The first data row contains the entry: "THF riboswitches are a class of homologous RNAs in certain bacteria that bind tetrahydrofolate (THF) which are almost exclusively", with the "Name" cell containing "THE1".

Interaction window (structure)

1) Click on the riboswitch name to go to the riboswitch content page

Riboswitches

Riboswitches are structured noncoding RNA domains which are typically embedded in messenger RNAs in many bacteria, where they monitor the concentrations of their target ligands and regulate gene expression accordingly. Typically, riboswitches are composed of two parts: an aptamer that senses the target ligand and an expression platform that directly interfaces with components of the cell that affect gene expression. In the past 20 years, more than 55 riboswitch classes have been experimentally validated and the ligands they sense comprise a diverse list of biologically relevant compounds including fundamental metabolites derived from RNA nucleotides or their precursors, amino acid, elementi ions and et al. For more detailed information about each riboswitch, please browse the table below and click on each riboswitch name.

Select an option
Download

Cofactors
RNA derivatives
RNA precursors
Signaling molecules
Elemental ions
Amino acids
Sugars
T-box
Others

Cofactors

Name	Ligand	Description	Discovery	Rfam-name	Rfam-ID
AdoCbl	Adenosylcobalamin	Cobalamin riboswitch is a <i>cis</i> -regulatory element which is widely distributed in 1' untranslated regions of cobalamin related genes in bacteria to regulate adjacent genes related to cobalamin metabolism in response to cobalamin binding. Cobalamin riboswitches are broadly classified by the identity of the aptamer, and can be further classified into AdoCbl and AqCbl riboswitch.	2009	AdoCbl riboswitch Cobalamin riboswitch	RF01482 RF00174



- 2) Click the buttons to navigate to different sections

3) Structure and Ligand recognition --2D

base pair annotations
- covarying mutations

nucleotide
present
● 97% ○ 75%
● 90% ○ 50%

nucleotide
identity

- N 97%
- N 90%
- N 75%

R = A or G. Y = C or U.

pk_1

AdoCbl Riboswitch

4) Structure and Ligand recognition --3D

The screenshot illustrates the Riboswitch viewer interface with several annotations:

- Structural colouring**: An annotation with a box and arrow pointing to the top right corner of the main viewer window, which contains a DNA structure colored in orange, blue, and green.
- Clearing colours**: An annotation with a box and arrow pointing to the top left corner of the main viewer window, which contains a DNA structure colored entirely in green.
- Color Selection** and **Clear Selection**: Buttons located at the top left and top right of the main viewer window respectively.
- Hand icon**: A large hand icon with a black outline, pointing to a specific region of the green-colored DNA structure.
- Control icons**: A vertical stack of six small icons on the right side of the main viewer window, used for rotation, zooming, and other operations.
- Zooms in or out**: An annotation with a box and arrow pointing to the bottom center of the main viewer window, where a zoom control bar is located.
- Ribocentre-switch**: The title of the current page, located at the bottom center of the interface.
- Navigation menu**: A horizontal menu at the bottom with links: Home, Riboswitches, Orphan riboswitches, Sequences, Structures, Binding pockets, Applications, Publications, and Help.