

- Finally let's try BindingDB (<http://www.bindingdb.org/bind/index.jsp>)
- Search for “succinate dehydrogenase”. Then click on “succinate dehydrogenase [ubiquinone] iron-sulfur subunit, mitochondrial”.
- How many hits do you get?
- I see 57!

**The Binding Database**

Home Info Download About us Email us Contribute data Web Services

myBDB logout

Search and Browse

Target

Sequence

Name &

Ki IC50 Kd EC50

Rate constants

$\Delta G^\circ$   $\Delta H^\circ$   $-\Delta S^\circ$

pH (Enzymatic Assay)

pH (ITC)

Substrate or Competitor

Compound Mol. Wt.

Chemical Structure

Pathways

Source Organism

Number of Compounds

Monomer List in csv

Het List in SDF

Compound

FDA Drugs

Important Compounds

Chemical Structure

Name

SMILES

Number of Data / Targets

Special tools

3D Structure Series

Find My Compound's Targets

Find Compounds for My Targets

Do Virtual Screening

SCOP

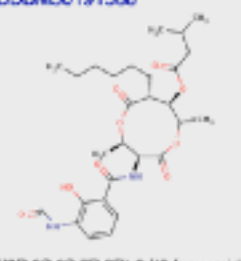
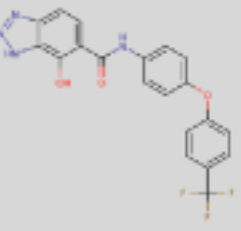
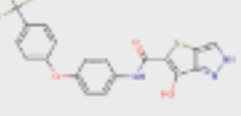
Compile Data Set for Download or QSAR

Add this page Add all pages Clear Selection Make Data Set

E-MAIL

Found 57 hits

Sort by Ki

Target/Host (nucleotide)	Ligand	Target/Host Links	Ligand Links	Trg + Lig Links	Ki nM	$\Delta G^\circ$ kcal/mole	IC50 nM	Kd nM	EC50/IC50 nM	$K_{cat}$ s <sup>-1</sup>	$K_{m,app}$ M <sup>-1</sup> s <sup>-1</sup>	pH	Temp °C
Succinate dehydrogenase [ubiquinone] iron-sulfur subunit, mitochondrial (Septoria tritici)	BOBM50191538  (2R,3S,6S,7R,8R)-3-[(3-tert-butyl-2-hydroxybenzoyl)-...] Show SMILES Show InChI	UniProtKB/SwissProt Google Scholar	Purchase ChEMBL KEGG PC cid PC sid PDB UniChem Similar	Article PubMed	n/a	n/a	2	n/a	n/a	n/a	n/a	n/a	n/a
Stine/Haskell Research Center Curated by ChEMBL					Assay Description Inhibition of <i>Septoria nodorum</i> succinate dehydrogenase and Qi site of mitochondrial respiratory chain complex 3 by FMET2-3 assay  Article DOI: 10.1021/jm02468u BindingDB Entry DOI: 10.26434/chemdb.org								
More data for this Ligand-Target Pair													
Succinate dehydrogenase [ubiquinone] iron-sulfur subunit, mitochondrial (Septoria tritici)	BOBM50411095  (CHEMBL438607) Show SMILES Show InChI	UniProtKB/SwissProt Google Scholar	ChEMBL PC cid PC sid UniChem Similar	Article PubMed	n/a	n/a	5	n/a	n/a	n/a	n/a	n/a	n/a
Stine/Haskell Research Center Curated by ChEMBL					Assay Description Inhibition of <i>Septoria nodorum</i> succinate dehydrogenase and Qi site of mitochondrial respiratory chain complex 3 by FMET2-3 assay  Article DOI: 10.1021/jm02468u BindingDB Entry DOI: 10.26434/chemdb.org								
More data for this Ligand-Target Pair													
Succinate dehydrogenase [ubiquinone] iron-sulfur subunit, mitochondrial (Septoria tritici)	BOBM50411096 	UniProtKB/SwissProt Google Scholar	ChEMBL PC cid PC sid UniChem	Article PubMed	n/a	n/a	26	n/a	n/a	n/a	n/a	n/a	n/a
Stine/Haskell Research Center					Assay Description Inhibition of <i>Septoria nodorum</i> succinate dehydrogenase and Qi site of mitochondrial respiratory chain complex 3 by FMET2-3 assay  Article DOI: 10.1021/jm02468u BindingDB Entry DOI: 10.26434/chemdb.org								

# What do I learn from the BindingDB hits?

- The relatively large number of compounds that bind to SDH suggests that the site is druggable
- The results are from two studies, one that tested inhibition for a bacterium *Septoria tritici*, and another for humans. The fact that many compounds bind to the human enzyme means that specificity could be an issue.
- It may be worth trying some of the compounds against *P. Aeruginosa*.