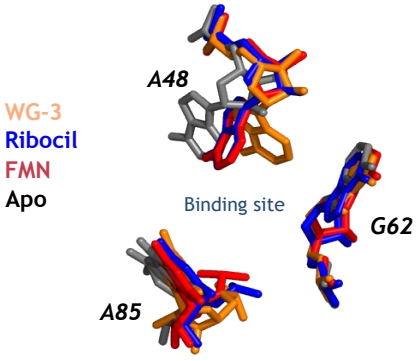
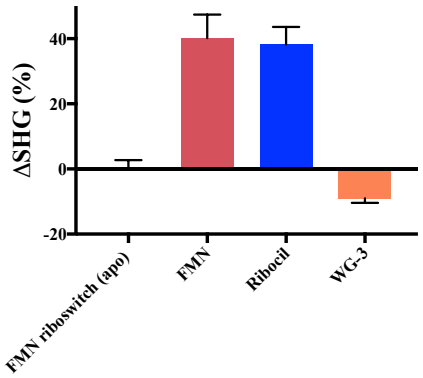
BIODESY RNA Drug Discovery Services

Screen What Matters. The Biodesy® Delta enables and accelerates your RNA drug discovery programs through fast assay development and the inexpensive measurement of >20,000 conformational changes per day.

Why Biodesy? Our Delta is a highly sensitive, robust, mass-independent platform amenable to use with the intrinsically dynamic RNA structures. The Delta generates conformational insights that are routinely used to distinguish between structural mechanisms of action (Figure A) and between specific and promiscuous ligands such as intercalators (Figure B).

A





Phenotypic assay

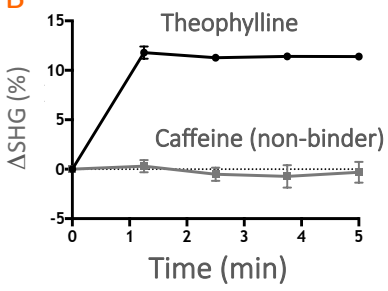
FMN: Natural ligand

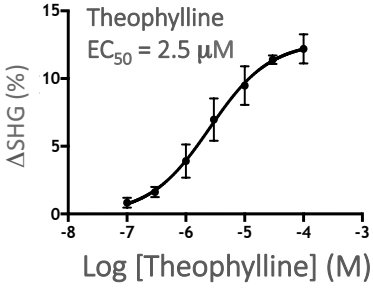
Ribocil: Riboflavin- dependent activity

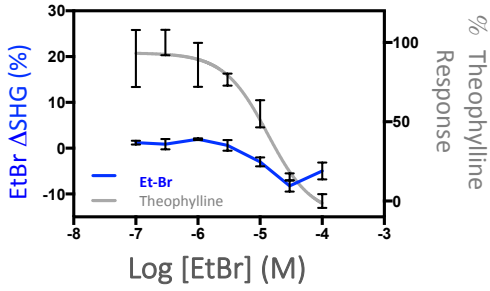
WG-3: No Riboflavin- dependent activity

FMN SHG analysis. SHG distinguishes RNA compounds by specificity and functional activity consistent with crystallographic and phenotypic assays. *Rizvi et al. (2018) ACS Chem. Biol 13(3):820-31*

B







RNA Aptamer Response to Target Molecules. Theophylline but not caffeine induces an increase in SHG intensity for the RNA aptamer, (EC_{50} = 2.5 μM) but not in the presence of high concentrations of Ethidium Bromide (an intercalator). *Butko et al. (2016) Anal Chem 21:10482-89*

Customized Services. Biodesy provides primary and secondary screening, follow-up characterization and SAR workflow services on fragments, small molecules and biologic libraries. Our services deliver high-value structural information early in the screening process or as an orthogonal biophysical analysis.

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