

Enveric Biosciences Inc - Chemical Library Catalogue Brochure: *Novel Serotonin-Norepinephrine-Dopamine Reuptake Inhibitors (SNDRI Series)*

Enveric's Novel SNDRI Series:

These two novel SNDRI compounds have expanded target profiles of potentially novel therapeutic value, including activity against various serotonin family receptors.

Background:

Serotonin-norepinephrine-dopamine reuptake inhibitors (SNDRI) also known as triple reuptake inhibitors (TRIs), are an emerging class of medications designed to treat severe depression and anxiety disorders. These drugs act as combined monoamine neurotransmitter reuptake inhibitors by antagonizing the serotonin transporter (SERT), norepinephrine transporter (NET) and dopamine transporter (DAT). This inhibition promotes elevated levels of extracellular serotonin, norepinephrine and dopamine enhancing positive neurotransmission. Two common SNDRI available on the market, Venlafaxine (sold by others as Effexor[®]) and

Nefazodone (sold as Serzone[™]), are antidepressants prescribed to treat major depressive disorder (MDD). Nefazodone is also able to modify the activity of various serotonergic receptors including 5-HT_{1A} and 5-HT_{2A}. Literature indicates binding to 5-HT_{2A} is associated with hallucination in humans, and also induces neuroplasticity.

Key Features of the SNDRI Series:

- SNDRI demonstrate strong binding to SERT, NET and DAT
 - Both are confirmed to be antagonists of SERT *in vitro*
- SNDRI-01 binds with high affinity to 5-HT_{1A} and 5-HT_{2A}, demonstrating a serotonin receptor binding profile similar to Nefazodone
- SNDRI-02 shows strong binding to 5-HT_{1A}, a receptor activated by approved anxiolytic Bupirone

Summary of Binding Data:

Compound ID	Monoamine Transporters			Serotonin Receptors	
	SERT	DAT	NET	5-HT _{1A}	5-HT _{2A}
SNDRI-01	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓
SNDRI-02	✓✓✓	✓✓✓	✓✓✓	✓✓✓	