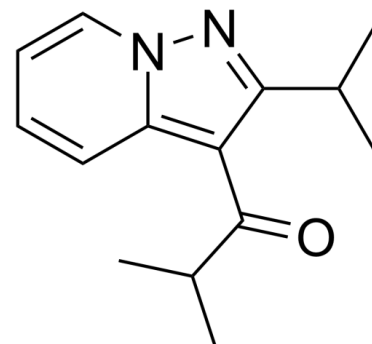


Data Sheet

Product Name:	Ibudilast
Cat. No.:	CS-2966
CAS No.:	50847-11-5
Molecular Formula:	C ₁₄ H ₁₈ N ₂ O
Molecular Weight:	230.31
Target:	Phosphodiesterase (PDE)
Pathway:	Metabolic Enzyme/Protease
Solubility:	DMSO : ≥ 140 mg/mL (607.88 mM)



BIOLOGICAL ACTIVITY:

Ibudilast (KC-404; AV-411; MN-166) is a relatively nonselective phosphodiesterase inhibitor which has been marketed for treating asthma. Target: PDE Ibudilast (3-isobutyryl-2-isopropylpyrazolo[1,5-a]pyridine) is a nonselective inhibitor of cyclic nucleotide phosphodiesterase (PDE). The inhibition of platelet aggregation and vasodilatation by ibudilast may be due to synergistic elevation of intracellular cyclic nucleotides and release of nitric oxide (NO) or prostacyclin from endothelium, rather than direct inhibition of PDE5 or PDE3. Another important property of ibudilast is its antiinflammatory activity possibly associated with potent inhibition of PDE4. Combined with its relaxing effects on bronchial smooth muscle, antiinflammatory activity of ibudilast could favorably influence pathophysiology of asthma by antagonizing chemical mediators triggering asthmatic attacks [1, 2]. Ibudilast (AV-411) is a non-selective phosphodiesterase inhibitor that is also known to suppress glial cell activation. Preclinical data indicate that ibudilast crosses the blood-brain barrier, is well tolerated, is active on oral administration, reduces glial activation and attenuates pain symptoms in diverse rat models of neuropathic pain[3].

References:

- [1]. Kishi, Y., et al., Ibudilast: A Non-selective PDE Inhibitor with Multiple Actions on Blood Cells and the Vascular Wall. Cardiovascular drug reviews, 2001. 19(3): p. 215-225.
- [2]. Rolan, P., M. Hutchinson, and K. Johnson, Ibudilast: a review of its pharmacology, efficacy and safety in respiratory and neurological disease. Expert Opin Pharmacother, 2009. 10(17): p. 2897-904.
- [3]. Ledebøer, A., et al., Ibudilast (AV-411). A new class therapeutic candidate for neuropathic pain and opioid withdrawal syndromes. Expert Opin Investig Drugs, 2007. 16(7): p. 935-50.

CAIndexNames:

1-Propanone, 2-methyl-1-[2-(1-methylethyl)pyrazolo[1,5-a]pyridin-3-yl]-

SMILES:

CC(C)C(C1=C2C=CC=CN2N=C1C(C)C)=O

Caution: Product has not been fully validated for medical applications. For research use only.

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