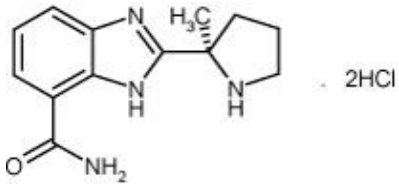
FT-FJ4191

PARP inhibitors

Poly(ADP-ribose) polymerase-1 (PARP-1) plays a major role in DNA damage signaling and cell death as well as in inflammation. PARP inhibitors are potential anticancer agents, radiosensitizers, and antiviral agents. [r]

Products Descriptions

Catalog #: FJ4191, 1mg
Name: **ABT-888**
2-[(2R)-2-Methylpyrrolidin-2-yl]-1H-benzimidazole-4-carboxamide . dihydrochloride
CAS: [912445-05-7] ; **MW: 280.76**

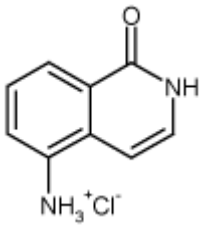


Properties: Purity: ≥98.0% (HPLC)
Identified by 1H-NMR
Colorless to white crystalline solid
Soluble in water or DMSO
Storage: +4°C, -20°C for long term (M%)

ABT-888 is a potent, orally bioavailable inhibitor of PARP-1 and PARP-2 (potency ≤5nM in vitro).
ABT-888 does not inhibit other NAD-binding enzymes and has minimal CYP450 inhibition and induction.
ABT-888 increases tumor growth delay resulting from radiation and DNA-damaging agents. It shows broad spectrum of chemo- and radiopotentiation. The ability to potentiate temozolomide (TMZ) and develop a biological marker for PARP inhibition was evaluated in vivo.
ABT-888 does not show inherent cytotoxicity and shows no single agent activity in tumor models. It has excellent bioavailability and good blood-brain permeation.

References:
Inhibition of poly(ADP-ribose) polymerase enhances cell death and improves tumor growth delay in irradiated lung cancer models: J.M. Albert, et al.; Clin. Cancer Res. 13, 3033 (2007) Abstract
ABT-888, an orally active poly(ADP-ribose) polymerase inhibitor that potentiates DNA-damaging agents in preclinical tumor models: C.K. Donawho, et al.; Clin. Cancer Res. 13, 2728 (2007) Abstract
Kim, M., et al.: Cell, 119, 803 (2004)
Tentori, L., et al.: Clin. Cancer Res., 9, 5370 (2003)
Tentori, L., et al.: Pharmacol. Res., 52, 25 (2005)
Virag, L., et al.: Pharmacol. Rev., 54, 375 (2002)

Catalog #: CA6261, 1mg
Name: **5-AIQ**
5-Aminoisoquinolinone . HCl
MW: **196.64**



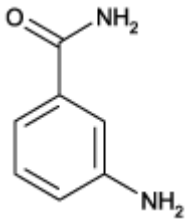
Properties: Purity: >97%
Beige to brown powder
Soluble in water (warm)
Storage: +4°C (L)

Water-soluble, potent inhibitor of poly(ADP-ribose) polymerase-1 (PARP-1).

References:
Effects of 5-aminoisoquinolinone, a water-soluble, potent inhibitor of the activity of poly (ADP-ribose) polymerase on the organ injury and dysfunction caused by haemorrhagic shock: M.C. McDonald, et al.; Br. J. Pharmacol. 130, 843 (2000) Abstract
Effects of 5-aminoisoquinolinone, a water-soluble, potent inhibitor of the activity of poly (ADP-ribose) polymerase, in a rodent model of lung injury: S. Cuzzocrea, et al.; Biochem. Pharmacol. 63, 293 (2002) Abstract
Substrate-assisted catalysis by PARP10 limits its activity to mono-ADP-ribosylation: H. Kleine, et al.; Mol. Cell 32, 57 (2008) Abstract

FT-FJ4191

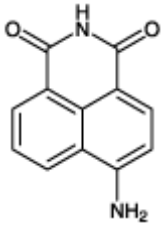
Catalog #: FJ4201, 1mg
Name: **3-Aminobenzamide**
3-Aminobenzamide
CAS: [3544-24-9] ; MW: **136.15**
Properties: Purity: >97%
White to tan powder
Soluble in DMSO or 100% ethanol
IRRITANT (may be mutagenic)
Storage: +4°C, -20°C for long term (M)



Inhibits endogenous poly-ADP-ribosyltransferases often present in membrane preparations with minimal effect of bacterial toxin mediated ADP-ribosylation. Inhibits nitric oxide-induced apoptosis but not/ differentiation in HL-60 cells. Protects cells from oxygen radical and nitric oxide toxicity. Inhibits stressinduced apoptosis.

References:
ADP-Ribose Transfer Reactions, Mechanisms and Biological Significance (M.K. Jacobsen & E.L. Jacobsen, eds.): C.J. Skidmore, et al.; Springer Verlag, New York 109 (1989)
Signal transduction in Coprinus congregatus: evidence for the involvement of G proteins in blue light photomorphogenesis: K.R. Kozak and I.A. Ross; BBRC 179, 1225 (1991) Abstract
Cell death protection by 3-aminobenzamide and other poly(ADP- ribose)polymerase inhibitors: different effects on human natural killer and lymphokine activated killer cell activities: D. Monti, et al.; BBRC 199, 525 (1994) Abstract
Cell death protection by 3-aminobenzamide: impairment of cytoskeleton function in human NK cell-mediated killing: W. Malorni, et al.; BBRC 199, 1250 (1994) Abstract
Possible involvement of poly(ADP-ribosyl) polymerase in triggering stress-induced apoptosis: C. Nosseri, et al.; Exp. Cell Res. 212, 367 (1994) Abstract
3-Aminobenzamide protects cells from UV-B-induced apoptosis by acting on cytoskeleton and substrate adhesion: W. Malorni, et al.; BBRC 207, 715 (1995) Abstract
Inactivation of the poly(ADP-ribose) polymerase gene affects oxygen radical and nitric oxide toxicity in islet cells: B. Heller, et al.; J. Biol. Chem. 270, 11176 (1995) Abstract
Inhibitors of poly(ADP-ribose) polymerase block nitric oxide-induced apoptosis but not differentiation in human leukemia HL-60 cells: M.L. Kuo, et al.; BBRC 219, 502 (1996) Abstract
Substrate-assisted catalysis by PARP10 limits its activity to mono-ADP-ribosylation: H. Kleine, et al.; Mol. Cell 32, 57 (2008) Abstract

Catalog #: FJ4211, 20mg
Name: **4-ANI**
4-Amino-1,8-naphthalimide
CAS: [1742-95-6] ; MW: **212.21**
Properties: Purity: >96% (NMR)
Orange powder
Soluble in DNSO (5mg/ml)
Storage: RT (Z)



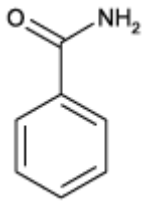
IRRITANT

Potent inhibitor of poly (ADP-ribose) polymerase-1 (PARP-1) (IC50=0.18µM). Reduces ischemia-reperfusion injury in the heart and skeletal muscle.
Stock solutions are stable for up to 3 months at -20°C.

References:
Specific inhibitors of poly(ADP-ribose) synthetase and mono(ADP-ribosyl)transferase: M. Banasik, et al.; J. Biol. Chem. 267, 1569 (1992) Abstract
Nitric oxide toxicity in islet cells involves poly(ADP-ribose) polymerase activation and concomitant NAD+ depletion: J. Radons, et al.; Biochem. Biophys. Res. Commun. 199, 1270 (1994) Abstract
Combination effects of poly(ADP-ribose) polymerase inhibitors and DNA-damaging agents in ovarian tumor cell lines--with special reference to cisplatin: F. Bernges, et al.; J. Cancer Res. Clin. Oncol. 122, 665 (1996) Abstract
Inhibition of the activity of poly(ADP ribose) synthetase reduces ischemia-reperfusion injury in the heart and skeletal muscle: C. Thiemermann, et al.; Proc. Natl. Acad. Sci. USA 94, 679 (1997) Abstract
Effects of inhibitors of the activity of poly (ADP-ribose) synthetase on the liver injury caused by ischaemia-reperfusion: a comparison with radical scavengers: J. Bowes & C. Thiemermann; Br. J. Pharmacol. 124, 1254 (1998) Abstract
4-Amino-1,8-naphthalimide: a novel inhibitor of poly(ADP-ribose) polymerase and radiation sensitizer: A. Schlicker, et al.; Int. J. Radiat. Biol. 75, 91 (1999) Abstract

FT-FJ4191

Catalog #: J41401,5 gg
Name: **Benzamide**
Benzamide
CAS: [55-21-0] ; MW: **121.1**
Properties: Purity: >99%
Whote ot off-white solid
Soluble in 100% ethanol
Storage: RT (Z)

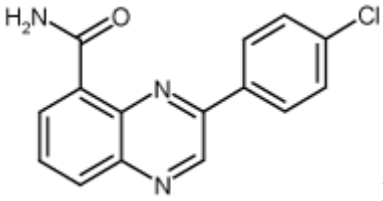


HARMFUL

Inhibitor of poly(ADP-ribose) polymerase-1 (PARP-1). Neuroprotectant.

References:
Cytotoxicity of a new IMP dehydrogenase inhibitor, benzamide riboside, to human myelogenous leukemia K562 cells: H.N. Jayaram, et al.; BBRC 186, 1600 (1992) Abstract
Nitric oxide activation of poly(ADP-ribose) synthetase in neurotoxicity: J. Zhang, et al.; Science 263, 687 (1994) Abstract
Substrate-assisted catalysis by PARP10 limits its activity to mono-ADP-ribosylation: H. Kleine, et al.; Mol. Cell 32, 57 (2008) Abstract

Catalog #: FJ4221, 1mg
Name: **3-(4-Chlorophenyl)quinoxaline-5-carboxamide**
MW: **283.7**
Properties: Purity: >95%
Light brown solid
Soluble in DMSO (10mg/ml)
Storage: +4°C (Z)

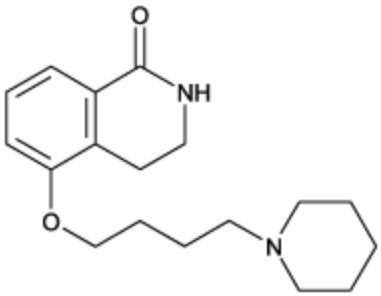


IRRITANT

Potent quinoxaline-based PARP inhibitor with a 5-fold selectivity towards PARP-2 (IC50=7nM) over PARP-1 (IC50=33nM). Brain-permeant. Exhibits good pharmacokinetics

References:
Discovery of quinazolinone and quinoxaline derivatives as potent and selective poly(ADP-ribose) polymerase-1/2 inhibitors: A. Iwashita, et al.; FEBS Lett. 579, 1389 (2005) Abstract
Discovery of potent and selective PARP-1 and PARP-2 inhibitors: SBDD analysis via a combination of X-ray structural study and homology modeling: J. Ishida, et al.; Bioorg. Med. Chem. 14, 1378 (2006) Abstract

Catalog #: FJ4231, 1mg
Name: **DPQ**
3,4-Dihydro-5-[4-(1-piperidinyl)butoxy]-1(2H)-isoquinolinone
CAS: [129075-73-6] ; MW: **302.4**
Properties: Purity: >98% (HPLC)
Off-white to light brown solid
Soluble in DMSO, slightly soluble in 100% ethanol, insoluble in water
Storage: +4°C (L)

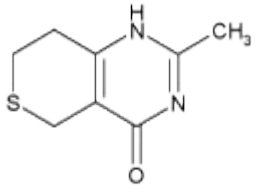


Very potent poly(ADP-ribose) polymerase-1 (PARP-1) inhibitor

References:
Dihydroisoquinolines: the design and synthesis of a new series of potent inhibitors of poly(ADP-ribose) polymerase: M.J. Suto, et al.; Anticancer Drug Des. 6, 107 (1991) Abstract
Poly(ADP-ribose) polymerase gene disruption renders mice resistant to cerebral ischemia: M.J.L. Eliasson, et al.; Nat. Med. 3, 1089 (1997) Abstract
Neuroprotective effects of inhibiting poly(ADP-ribose) synthetase on focal cerebral ischemia in rats: H. Takahashi, et al.; J. Cereb. Blood Flow Metab. 17, 1137 (1997) Abstract
Role of poly(ADP-ribose) synthetase in inflammation and ischaemia-reperfusion: C. Szabo & V.L. Dawson; TIPS 19, 287 (1998), (Review) Abstract
Post-treatment with an inhibitor of poly(ADP)-ribose polymerase attenuates cerebral damage in focal ischemia: K. Takahashi, et al.; Brain Res. 829, 46 (1999) Article
Poly(ADP-ribose) polymerase inhibitors attenuate necrotic but not apoptotic neuronal death in experimental models of cerebral ischemia: F. Moroni, et al.; Cell Death Differ. 8, 921 (2001) Abstract
Comet assay as a novel approach for studying DNA damage in focal cerebral ischemia: differential effects of NMDA receptor antagonists and poly(ADP-ribose) polymerase inhibitors: L. Giovannelli, et al.; J. Cereb. Blood Flow Metab. 22, 697 (2002) Abstract

FT-FJ4191

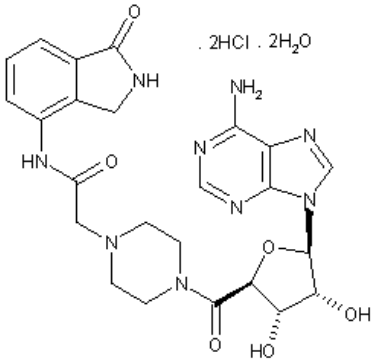
Catalog #: RM1150, 1mg
Name: **DR2313**
2-Methyl-3,5,7,8-tetrahydrothiopyrano[4,3-d]pyrimidine-4-one
CAS: [284028-906] ; MW: **182.2**
Properties: Purity: >98% (HPLC)
Whit ot off-white solid
Soluble in DMSO, methanol, water
Storage: RT (Z)



Potent, water soluble competitive PARP inhibitor (IC50=0.20µM and 0.24µM for PARP-1 and PARP-2 respectively).

References:
A newly synthesized poly(ADP-ribose) polymerase inhibitor, DR2313 [2-methyl-3,5,7,8-tetrahydrothiopyrano[4,3-d]-pyrimidine-4-one]: pharmacological profiles, neuroprotective effects, and therapeutic time window in cerebral ischemia in rats: H. Nakajima, et al.; Pharmacol. Exp. Ther. 312, 472 (2005) Article

Catalog #: WT8131, 5mg
Name: **EB-47**
1-Piperazineacetamide,4-[1-(6-amino-9H-purin-9-yl)-1-deoxy-β-D-ribofuranuron]-N-(2,3-dihydro-1H-isoindol-4-yl)-1-one . 2HCl . 2H2O
MW: **592.02**
Properties: Purity: >95% (HPLC)
White solid
Soluble in water or DMSO
Storage: -20°C for long term (J)



MAY BE CARCINOGENIC. HARMFUL.

Very potent and water soluble PARP-1 inhibitor (IC50=45nM, 100% inhibition at 200nM). Shows cytoprotective effects against oxidative damage in cells and in in vivo models of reperfusion injury and inflammation.

References:
The discovery and synthesis of novel adenosine substituted 2,3-dihydro-1H-isoindol-1-ones: potent inhibitors of poly(ADP-ribose) polymerase-1 (PARP-1): P.G. Jagtap, et al.; Bioorg. Med. Chem. Lett. 14, 81 (2004) Abstract
Substrate-assisted catalysis by PARP10 limits its activity to mono-ADP-ribosylation: H. Kleine, et al.; Mol. Cell 32, 57 (2008) Abstract

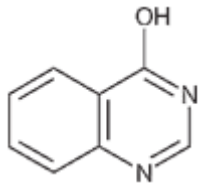
Catalog #: 508760, 1mg
Name: **L-TRYPTOPHYL-L-GLUTAMIC ACID**
H-Try-Glu-OH; W-WE-OH
CAS: [36099-95-3] ; MW: **333.35**
Properties: Purity: >97%
Whit ot off-white solid
Soluble in water (50mg/ml)
Storage: -20°C for long term (M)

Cell permeable, selective and reversible PPARγ antagonist. Has been shown to inhibit the agonist activity of rosiglitazone (Prod. #AM086) in a dose-dependent manner (IC50=31.9µM).

References:
The dipeptide H-Trp-Glu-OH shows highly antagonistic activity against PPARgamma: bioassay with molecular modeling simulation: F. Ye, et al.; Chembiochem. 7, 74 (2006) Abstract
The nuclear receptor-coactivator interaction surface as a target for peptide antagonists of the peroxisome proliferator activated receptors: N. B. Mettu, et al.; Mol. Endocrinol. 21, 2361 (2007) Article

FT-FJ4191

Catalog #: 02007F, 1mg
Name: **4-Hydroxyquinazoline**
2
CAS: [491-36-1] ; MW: **146.2**
Properties: Purity: >98%
Whtite t ogrey solid
Soluble in DMSO (50mg/ml) or methanol
Storage: RT (Z)

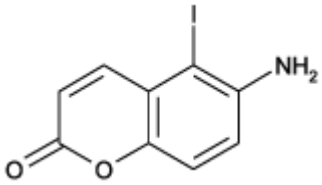


IRRITANT

Potent inhibitor of poly(ADP-ribose) polymerase-1 (PARP-1) (IC50=9.5µM). Attenuates activation of ERK and p38 MAP kinase induced by LPS. Displays beneficial effects in LPS-induced endotoxic shock. Protects the heart from oxidative damage during reperfusion injury.

References:
Specific inhibitors of poly(ADP-ribose) synthetase and mono(ADP-ribosyl)transferase: M. Banasik, et al.; J. Biol. Chem. 267, 1569 (1992) Abstract
Effect of poly(ADP-ribose) polymerase inhibitors on the ischemia-reperfusion-induced oxidative cell damage and mitochondrial metabolism in Langendorff heart perfusion system: R. Halmosi, et al.; Mol. Pharmacol. 59, 1497 (2001) Abstract
Regulation of kinase cascades and transcription factors by a poly(ADP-ribose) polymerase-1 inhibitor, 4-hydroxyquinazoline, in lipopolysaccharide-induced inflammation in mice: B. Veres, et al.; J. Pharmacol. Exp. Ther. 310, 247 (2004) Abstract
Substrate-assisted catalysis by PARP10 limits its activity to mono-ADP-ribosylation: H. Kleine, et al.; Mol. Cell 32, 57 (2008) Abstract

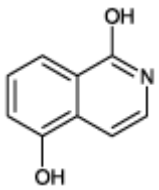
Catalog #: FJ4241, 1mg
Name: **5-Iodo-6-amino-1,2-benzopyrone**
5-Iodo-6-amino-1,2-benzopyrone
CAS: [137881-27-7] ; MW: **1**
Properties: Purity: >98%
Off-white to yellow solid
Soluble in DMSO
Storage: +4°C (L)



Inhibitor of poly(ADP-ribose) polymerase-1 (PARP-1).

References:
Reversion of malignant phenotype by 5-iodo-6-amino-1,2-benzopyrone a non-covalently binding ligand of poly(ADP-ribose) polymerase: P.I. Bauer, et al.; Biochimie 77, 374 (1995) Abstract
Protective effects of 5-iodo-6-amino-1,2-benzopyrone, an inhibitor of poly(ADP-ribose) synthetase against peroxynitrite-induced glial damage and stroke development: M. Endres, et al.; Eur. J. Pharmacol. 351, 377 (1998) Abstract
Poly(ADP-ribose) synthetase activation mediates increased permeability induced by peroxynitrite in Caco-2BBe cells: M. Kennedy, et al.; Gastroenterology 114, 510 (1998) Abstract
Potential role of the peroxynitrate-poly(ADP-ribose) synthetase pathway in a rat model of severe hemorrhagic shock: C. Szabó, et al.; Shock 9, 341 (1998) Abstract
Protection against peroxynitrite-induced fibroblast injury and arthritis development by inhibition of poly(ADP-ribose) synthase: C. Szabó, et al.; PNAS 95, 3867 (1998) Article
Crucial role of apopain in the peroxynitrite-induced apoptotic DNA fragmentation: L. Virág, et al.; Free Radic. Biol. Med. 25, 1075 (1998) Abstract
Poly(ADP-ribose) synthetase activation mediates mitochondrial injury during oxidant-induced cell death: L. Virág, et al.; J. Immunol. 161, 3753 (1998) Article
Novel roles of nitric oxide in hemorrhagic shock: C. Szabo & T.R. Billiar; Shock 12, 1 (1999) Abstract
Cancer cell selectivity of 5-iodo-6-aminobenzopyrone (INH2BP) and methyl-3,5-diiodo-4(4'-methoxyphenoxy) benzoate (DIME): E. Kirsten & E. Kun; Int. J. Mol. Med. 5, 279 (2000) Abstract
Role of poly(ADP-ribose) synthetase activation in the development of experimental allergic encephalomyelitis: G.S. Scott, et al.; J. Neuroimmunol. 117, 78 (2001) Abstract
Inhibition of poly (ADP-ribose) synthetase by gene disruption or inhibition with 5-iodo-6-amino-1,2-benzopyrone protects mice from multiple-low-dose-streptozotocin-induced diabetes: J.G. Mabley, et al.; Br. J. Pharmacol. 133, 909 (2001) Abstract

Catalog #: 229765, 1mg
Name: **1,5-Isoquinolinediol**
1,5-Isoquinolinediol
CAS: [5154-02-9] ; MW: **161.2**
Properties: Purity: >98%
Yellow solid
Soluble in DMSO (25mg/ml), DMF (25mg/ml) or 100% Ethanol (25mg/ml, warm). Also soluble in 0.1N NaOH or in methanol; insoluble in water and 0.1N HCl
Storage: RT (Z)



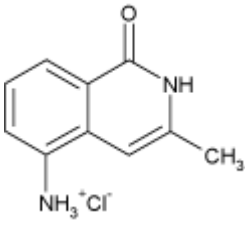
IRRITANT

FT-FJ4191

Potent inhibitor of inducible nitric oxide synthase (iNOS; NOS II) in mouse macrophages. Potent and selective PARP inhibitor. Inhibits nitric oxide (SIN-1) induced PARP activation in rat hepatocytes (at 20µM). Neuroprotectant.

References:
Specific inhibitors of poly(ADP-ribose) synthetase and mono(ADP-ribosyl)transferase: M. Banasik, et al.; J. Biol. Chem. 267, 1569 (1992) Abstract
Nitric oxide activation of poly(ADP-ribose) synthetase in neurotoxicity: J. Zhang, et al.; Science 263, 687 (1994) Abstract
Nitric oxide inhibits DNA synthesis and induces activation of poly(ADP-ribose) polymerase in cultured rat hepatocytes: M. Dalmau, et al.; Exp. Cell Res. 228, 14 (1996) Abstract
Effects of inhibitors of the activity of poly (ADP-ribose) synthetase on the organ injury and dysfunction caused by haemorrhagic shock: M.C. McDonald, et al.; Br. J. Pharmacol. 128, 1339 (1999) Abstract
Inhibition of poly(ADP-ribose)polymerase stimulates extrachromosomal homologous recombination in mouse Ltk-fibroblasts: A. Semionov, et al.; Nucleic Acids Res. 27, 4526 (1999) Abstract
All trans retinoic acid induces apoptosis in acute promyelocytic NB4 cells when combined with isoquinolinediol, a poly(ADP-ribose) polymerase inhibitor: D.M. Berry, et al.; Leuk. Res. 24, 307 (2000) Abstract
Inhibition of NOS-2 induction in LPS-stimulated J774.2 cells by 1, 5-isoquinolinediol, an inhibitor of PARP: R. Olszanecki, et al.; J. Physiol. Pharmacol. 57, 109 (2006) Abstract
Substrate-assisted catalysis by PARP10 limits its activity to mono-ADP-ribosylation: H. Kleine, et al.; Mol. Cell 32, 57 (2008) Abstract

Catalog #: FJ4251, 1mg
Name: **3-Methyl-5-AIQ . hydrochloride**
3-Methyl-5-aminoisoquinolinone . HCl
CAS: [] ; MW: **210.66**

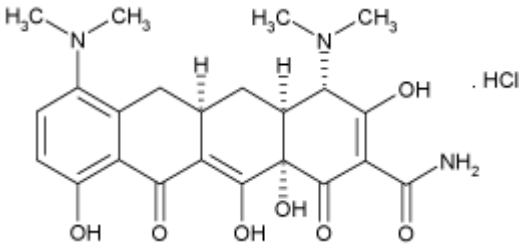


Properties: Purity: >98% (NMR)
Light brown solid
Soluble in water or DMSO; poorly soluble in 100% ethanol or methanol; insoluble in dichloromethane or tehyl acetate
Storage: +4°C, -20°C for long term (M%)

Water-soluble, potent inhibitor of poly(ADP-ribose) polymerase-1 (PARP-1) (IC50=0.23µM) in vitro. Exhibits outstanding therapeutic benefits in models of myocardial infarction, ischaemia-reperfusion of the liver and kidney, heart transplantation and acute lung inflammation.

References:
Synthesis and PARP-1 inhibitory activity of 3-substituted analogues of the potent water-soluble PARP inihbitor 5-aminoisoquinolin-1-one (5-AIQ): E. C. Y. Woon, et al.; Bioorg. Med. Chem, (2006)

Catalog #: E99225, 50mg
Name: **MinoCycline HCl**
.
CAS: [13614-98-7] ; MW: **493.95**



Properties: Yellow crystalline solid
Soluble in water (50mg/ml, warm), or DMSO (7mg/ml)
Storage: -20°C for long term (M)

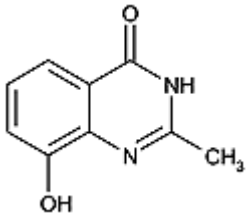
IRRITANT

Tetracycline derivative with antimicrobial activity. Inhibitor of angiogenesis, apoptosis and poly(ADP-ribose) polymerase-1 (PARP-1). Anti-inflammatory and neuroprotective.

References:
Local delivery of minocycline and systemic BCNU have synergistic activity in the treatment of intracranial glioma: J.L. Frazier, et al.; J. Neurooncol. 64, 203 (2003) Abstract
Minocycline exerts multiple inhibitory effects on vascular endothelial growth factor-induced smooth muscle cell migration: the role of ERK1/2, PI3K, and matrix metalloproteinases: J.S. Yao, et al.; Circ. Res. 95, 364 (2004) Abstract
Minocycline up-regulates Bcl-2 and protects against cell death in mitochondria: J. Wang, et al.; J. Biol. Chem. 279, 19948 (2004) Abstract
Minocycline up-regulates BCL-2 levels in mitochondria and attenuates male germ cell apoptosis: M. Castanares, et al.; BBRC 337, 663 (2005) Abstract
Minocycline reduces proinflammatory cytokine expression, microglial activation, and caspase-3 activation in a rodent model of diabetic retinopathy: J.K. Krady, et al.; Diabetes 54, 1559 (2005) Abstract
Minocycline inhibits poly(ADP-ribose) polymerase-1 at nanomolar concentrations: C.C. Alano, et al.; PNAS 103, 9685 (2006) Abstract
Multiple neuroprotective mechanisms of minocycline in autoimmune CNS inflammation: K. Maier, et al.; Neurobiol. Dis. 25, 514 (2007) Abstract
Comparison of doxycycline and minocycline in the inhibition of VEGF-induced smooth muscle cell migration: J.S. Yao, et al.; Neurochem. Int. 50, 524 (2007) Abstract
Minocycline, a second-generation tetracycline, as a neuroprotective agent in an animal model of schizophrenia: Y. Levkovitz, et al.; Brain Res. 1154, 154 (2007) Abstract

FT-FJ4191

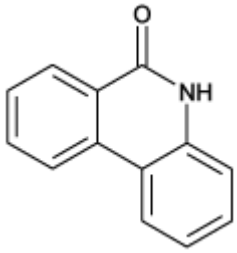
Catalog #: RL4901, 5mg
Name: **NU1025**
8-Hydroxy-2-methylquinazoline-4-one
CAS: [90417-38-2] ; MW: **176.18**
Properties: Purity: >98%
Off-white to purple solid
Soluble in DMSO (25mg/ml)
Storage: -20°C for long term (M)



A potent poly(ADP-ribose) polymerase 1 (PARP-1) inhibitor (IC50=400nM) that potentiates the cytotoxicity of various DNA-active agents, including the DNA-methylating compound MTIC, the DNA strand break-inducing drug temozolomide (Prod. No. ALX-420-044), topotecan (Prod. No. ALX-350-133), bleomycin (Prod. No. ALX-630-107), and ionizing radiation effective in murine L1210 leukemia cells, CHO, and in a variety of human tumor cell lines Used ar 0.25mg/ml in tissue cultrue media.

References:
Potentiation of temozolomide-induced cytotoxicity: a comparative study of the biological effects of poly(ADP-ribose) polymerase inhibitors: S. Boulton, et al.; Br. J. Cancer 72, 849 (1995) Abstract
Nephron-sparing surgery for renal cell carcinoma: J.H. Griffin & R.C. Flanigan; Tech. Urol.
Potentiation of anti-cancer agent cytotoxicity by the potent poly(ADP-ribose) polymerase inhibitors NU1025 and NU1064: K.J. Bowman, et al.; Br. J. Cancer 78, 1269 (1998) Abstract
Resistance-modifying agents. 5. Synthesis and biological properties of quinazolinone inhibitors of the DNA repair enzyme poly(ADP-ribose) polymerase (PARP): R.J. Griffin, et al.; J. Med. Chem. 41, 5247 (1998) Abstract
Interactive effects of inhibitors of poly(ADP-ribose) polymerase and DNA-dependent protein kinase on cellular responses to DNA damage: S. Boulton, et al.; Carcinogenesis 20, 199 (1999) Article
Potentiation of temozolomide and topotecan growth inhibition and cytotoxicity by novel poly(adenosine diphosphoribose) polymerase inhibitors in a panel of human tumor cell lines: C.A. Delaney, et al.; Clin. Cancer Res. 6, 2860 (2000) Article

Catalog #: 41474A, 10mg
Name: **6(5H)-Phenanthridinone**
.
CAS: [1015-89-0] ; MW: **195.22**
Properties: Purity: >95%
Off-white to light brown solid
Soluble in DMSO (5mg/ml)
Storage: -20°C for long term (M)

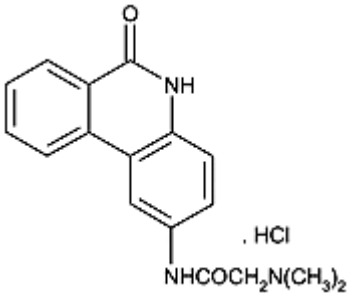


Poly(ADP-ribose)polymerase (PARP) inhibitor. Displays immunosuppressive activity. Inhibits concanavalin A-induced lymphocyte proliferation at micromolar concentrations.

References:
Specific inhibitors of poly(ADP-ribose) synthetase and mono(ADP-ribosyl)transferase: M. Banasik, et al.; J. Biol. Chem. 267, 1569 (1992) Article
Immunosuppressive activities of 6(5H)-phenanthridinone, a new poly(ADP-ribose)polymerase inhibitor: D. Weltin, et al.; Int. J. Immunopharmacol. 17, 265 (1995) Abstract
Combination effects of poly(ADP-ribose) polymerase inhibitors and DNA-damaging agents in ovarian tumor cell lines--with special reference to cisplatin: F. Bernges & W.J. Zeller; J. Cancer Res. Clin. Oncol. 122, 665 (1996) Abstract
N-acetylcysteine protects lymphocytes from nitrogen mustard-induced apoptosis: D. Weltin, et al.; Biochem. Pharmacol. 51, 1123 (1996) Abstract
Effect of 6(5H)-phenanthridinone, a poly (ADP-ribose)polymerase inhibitor, and ionizing radiation on the growth of cultured lymphoma cells: D. Weltin, et al.; Int. J. Radiat. Biol. 72, 685 (1997) Abstract
Peroxynitrite and hydrogen peroxide induced cell death in the NSC34 neuroblastoma x spinal cord cell line: role of poly (ADP-ribose) polymerase: M.R. Cookson, et al.; J. Neurochem. 70, 501 (1998) Abstract
Effects of PARP inhibition on drug and Fas-induced apoptosis in leukaemic cells: D.S. Richardson, et al.; Adv. Exp. Med. Biol. 457, 267 (1999) Abstract
Substrate-assisted catalysis by PARP10 limits its activity to mono-ADP-ribosylation: H. Kleine, et al.; Mol. Cell 32, 57 (2008) Abstract

FT-FJ4191

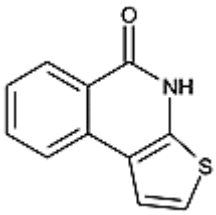
Catalog #: WT1110, 1mg
Name: **PJ-34**
N-(6-Oxo-5,6-dihydro-phenanthridin-2-yl)-N,N-dimethylacetamide . HCl
MW: **331.8**
Properties: Purity: >9% (NMR)
White ot light brown powder
Soluble in DMSO or water
Storage: +4°C (L)



Potent, water soluble poly(ADP-ribose) polymerase (PARP) inhibitor (EC50=20nM compared to EC50=200µM of the prototypical PARP inhibitor 3-aminobenzamide (Prod. #FJ4201)). Inhibits peroxynitrite-induced cell necrosis (EC50=20nM). Has significant, dose-dependent, anti-inflammatory effects in a variety of local inflammation models and provides cardioprotection by decreasing myocardial infarct size.

References:
Protective effects of PJ34, a novel, potent inhibitor of poly(ADP-ribose) polymerase (PARP) in in vitro and in vivo models of stroke: G.E. Abdelkarim, et al.; Int. J. Mol. Med. 7, 255 (2001) Abstract
Partial protection by poly(ADP-ribose) polymerase inhibitors from nitroxyl-induced cytotoxity in thymocytes: P. Bai, et al.; Free Radic. Biol. Med. 31, 1616 (2001) Abstract
Diabetic endothelial dysfunction: the role of poly(ADP-ribose) polymerase activation: F. Garcia Soriano, et al.; Nat. Med. 7, 108 (2001) Abstract
Anti-inflammatory effects of a novel, potent inhibitor of poly (ADP-ribose) polymerase: J.G. Mabley, et al.; Inflamm. Res. 50, 561 (2001) Abstract
Myocardial protection by PJ34, a novel potent poly (ADP-ribose) synthetase inhibitor: R. Faro, et al.; Ann. Thorac. Surg. 73, 575 (2002) Abstract
Novel phenanthridinone inhibitors of poly (adenosine 5'-diphosphate-ribose) synthetase: potent cytoprotective and antishock agents: P. Jagtap, et al.; Crit. Care Med. 30, 1071 (2002) Abstract
Activation of poly(ADP-ribose) polymerase contributes to the endothelial dysfunction associated with hypertension and aging: P. Pacher, et al.; Int. J. Mol. Med. 9, 659 (2002) Abstract
Pharmacologic inhibition of poly(adenosine diphosphate-ribose) polymerase may represent a novel therapeutic approach in chronic heart failure: P. Pacher, et al.; J. Am. Coll. Cardiol. 40, 1006 (2002) Abstract
Systemic and hepatosplanchnic hemodynamic and metabolic effects of the PARP inhibitor PJ34 during hyperdynamic porcine endotoxemia: Z. Ivanyi, et al.; Shock 19, 415 (2003) Article
Substrate-assisted catalysis by PARP10 limits its activity to mono-ADP-ribosylation: H. Kleine, et al.; Mol. Cell 32, 57 (2008) Abstract

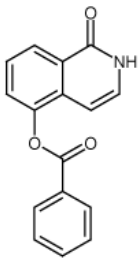
Catalog #: RW5115, 1mg
Name: **TIQ-A**
Thieno[2,3-c]isoquinolin-5-one
MW: **201.2**
Properties: Purity: >98%
Soluble in DMSO
Storage: +4°C (L)



Potent poly(ADP-ribose) polymerase-1 (PARP-1) inhibitor (IC50=450nM). Neuroprotectant.

References:
Novel isoquinolinone-derived inhibitors of poly(ADP-ribose) polymerase-1: pharmacological characterization and neuroprotective effects in an in vitro model of cerebral ischemia: A. Chiarugi, et al.; J. Pharmacol. Exp. Ther. 305, 943 (2003) Article
Towards new neuroprotective agents: design and synthesis of 4H-thieno[2,3-c] isoquinolin-5-one derivatives as potent PARP-1 inhibitors: R. Pellicciari, et al.; Farmaco 58, 851 (2003) Abstract

Catalog #: FJ4261, 1mg
Name: **UPF1035**
5-Benzoyloxy-3,4-dihydroisoquinolin-1(2H)-one
MW: **265.3**
Properties: Purity: >95% (HPLC)
Soluble in DMSO
Storage: -20°C for long term (M)
Not stable in basic conditions.

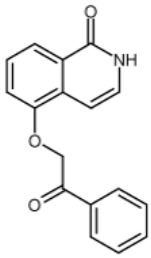


PARP-2 specific inhibitor with 60-fold selectivity for PARP-2 (IC50=0.15 ± 0.04µM) over PARP-1 (IC50=9.0 ± 0.7µM). Can be used for further characterization of PARP-2 in pathophysiological conditions.

References:
On the way to selective PARP-2 inhibitors. Design, synthesis, and preliminary evaluation of a series of isoquinolinone derivatives: R. Pellicciari, et al.; ChemMedChem 3, 914 (2008) Abstract
Selective PARP-2 inhibitors increase apoptosis in hippocampal slices but protect cortical cells in models of post-ischaemic brain damage: F. Moroni, et al.; Br. J. Pharmacol. 157, 854 (2009) Abstract

FT-FJ4191

Catalog #: FJ4271, 1mg
Name: **UPF1069**
5-(2-Oxo-2-phenylethoxy)-3,4-dihydroisoquinolin-1(2H)-one
MW: **279.3**
Properties: Purity: >98% (HPLC)
Soluble in DMSO
Storage: -20°C for long term (M)
Very stable in basic and in acidic conditions



PARP-2 specific inhibitor with 26.7-fold selectivity for PARP-2 (IC50=0.3 ± 0.08µM) over PARP-1 (IC50=8.0 ± 0.9µM).

References:
On the way to selective PARP-2 inhibitors. Design, synthesis, and preliminary evaluation of a series of isoquinolinone derivatives: R. Pellicciari, et al.; ChemMedChem 3, 914 (2008) Abstract
Selective PARP-2 inhibitors increase apoptosis in hippocampal slices but protect cortical cells in models of post-ischaemic brain damage: F. Moroni, et al.; Br. J. Pharmacol. 157, 854 (2009) Abstract

Related / associated products

PARP assays
PARP

Literature - general

The Therapeutic Potential of Poly(ADP-Ribose) Polymerase Inhibitors: L. Virag and C. Szabo; Pharmacol. Rev. 54, 375 (2002), (Review) Abstract

Other Information

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