

Monoclonal Antibodies



CUSTOM DEVELOPMENT OF ANTIBODIES AGAINST DIFFICULT TARGETS

To discover for our customers best-in-class monoclonal antibodies against their challenging targets, we utilize DIANA-Ab single-cell technology to quantitatively screen whole plasma cell repertoire of the immunized animal and identifying the rarest clones with the highest affinity and selectivity.



RABBIT RECOMBINANT ANTIBODIES

Rabbit recombinant antibodies combine the strengths of rabbit immune responses with the consistency of recombinant production. Compared with conventional mouse hybridoma workflows or display-based discovery, they offer strong potential for high affinity, recognition of a wider range of targets (including small molecules), genetic stability, scalability, and reliable lot-to-lot consistency.

EXPERTS IN SMALL MOLECULE ANTIGENS

Small molecules require more than a standard antibody discovery workflow. DIANA-Ab combines advanced in-house chemistry capabilities, proprietary bioconjugation know-how, and high-throughput single plasma cell screening to identify high-affinity, target-specific monoclonal antibodies against these challenging targets.

About Antibodies Segment of DIANA Biotechnologies



Content



DB Antibodies. Hormones

DB Anti-Estradiol Rabbit mAb

Rabbit recombinant monoclonal antibody against estradiol

5

DB Anti-DHEA Rabbit mAb

Rabbit monoclonal recombinant antibody against DHEA

6

DB Anti-Estrone Rabbit mAb

Rabbit monoclonal recombinant antibody against estrone

7



DB Antibodies. Drugs of Abuse

DB Anti-Mitragynine Rabbit mAb

Rabbit recombinant monoclonal antibody against mitragynine

9

DB Anti-Mitraphylline Rabbit mAb

Rabbit monoclonal recombinant antibody against mitraphylline

10

DB Anti-Nitazenes Rabbit mAb

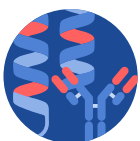
Rabbit monoclonal recombinant antibody against nitazenes

11

DB Anti-Desnitazenes Rabbit mAb

Rabbit recombinant monoclonal antibody against desnitazenes

13



DB Antibodies. Peptides and Proteins

DB Anti-GluA1 Rabbit mAb

Rabbit recombinant monoclonal antibody against GluA1

16

DB Anti-GluA2 Rabbit mAb

Rabbit monoclonal recombinant antibody against GluA2

17

DB Anti-GluA3 Rabbit mAb

Rabbit monoclonal recombinant antibody against GluA3

18

DB Anti-Taq Polymerase Rabbit mAb

Rabbit recombinant monoclonal antibody against *Taq* polymerase

19

DB Anti-GST Rabbit mAb

Rabbit recombinant monoclonal antibody against GST tag

21

DB Antibodies Hormones

DB Anti-Estradiol Rabbit mAb

DB Anti-DHEA Rabbit mAb

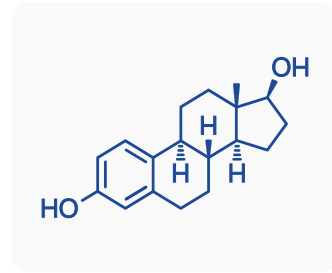
DB Anti-Estrone Rabbit mAb

DB Anti-SEB Rabbit mAb



DB Anti-Estradiol Rabbit mAb

Estradiol (E2) is the most potent endogenous estrogen and the primary form during reproductive years. It is produced mainly in the ovaries through aromatization of testosterone. Through ER α , ER β , and GPER1 receptors, estradiol regulates essential reproductive, skeletal, metabolic, cardiovascular, and neurological functions. It is crucial for menstrual-cycle control, bone integrity, and neuroendocrine signaling¹. Estradiol testing helps evaluate ovarian function, identify menstrual abnormalities, guide assisted reproduction, and monitor estrogen-secreting tumors. In postmenopausal individuals, it is also used to assess the effectiveness of hormone therapy. We offer ultra-high-affinity rabbit recombinant monoclonal antibodies against estradiol, available either as ready-to-use recombinant proteins (including BSA conjugate) or through licensing.



Antibody specification

● Target Estradiol	● Isotype IgG-Kappa 1	● Expression Mammalian	● Field Hormone
● Immunogen VLP-Estradiol	● Class Recombinant	● Purification Protein A	● Storage Short term: +4 °C Long term: -80 °C
● Target type Small molecule	● Host Rabbit	● Concentration 1 mg/mL	● Applications ● Lateral flow assay ● ELISA, CLIA, RIA etc.
● Clonality Monoclonal	● Conjugation Upon request	● Storage buffer PBS	

Conjugate specification

● Conjugate ● BSA-Estradiol ● Reactive hapten (upon request)	● Concentration 1 mg/mL	● Storage buffer PBS	● Storage -20 °C or below
--	----------------------------	-------------------------	------------------------------

Clone information

Clone number	Affinity, nM Estradiol	X-reactivity, % Estrone	X-reactivity, % Estriol	X-reactivity, % 17 β -Estradiol sulfate
DB-201039	0.069 \pm 0.012	1.3 \pm 0.3	0.16 \pm 0.03	0.52 \pm 0.17
DB-201533	0.026 \pm 0.004	2.3 \pm 0.5	0.22 \pm 0.03	0.51 \pm 0.11
DB-201534	0.020 \pm 0.008	3.6 \pm 1.5	1.2 \pm 0.5	0.58 \pm 0.31
DB-201047	0.026 \pm 0.002	1.1 \pm 0.2	0.094 \pm 0.014	0.47 \pm 0.12
DB-201044	0.095 \pm 0.012	0.8 \pm 0.1	0.16 \pm 0.02	0.61 \pm 0.10

All values are presented as mean \pm standard deviation.

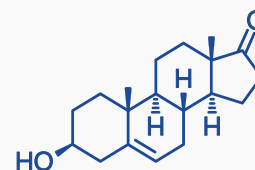
Literature

1. Chen P., Bo L., Ling O.-Y. Role of estrogen receptors in health and disease. *Frontiers in Endocrinology*. 13: 839005 (2022).



DB Anti-DHEA Rabbit mAb

Dehydroepiandrosterone (DHEA) is an endogenous steroid hormone produced by the adrenal glands as a precursor of estrogens and androgens, with levels declining with age. DHEA acts as a neurosteroid that modulates GABA-A, NMDA, and sigma-1 receptors, influencing neuronal excitability, mood, synaptic plasticity, and neuroprotective pathways. These neuroactive properties link DHEA to roles in stress response and cognitive processes¹. The DHEA test evaluates adrenal function and assists in diagnosing hyperandrogenism, PCOS, adrenal tumors, adrenal insufficiency, and pubertal disorders. We offer ultra-high-affinity rabbit recombinant monoclonal antibodies against DHEA, available either as ready-to-use recombinant proteins (including BSA conjugate) or through licensing.



Antibody specification

● Target DHEA	● Isotype IgG-Kappa 1	● Expression Mammalian	● Field Hormone
● Immunogen VLP-DHEA	● Class Recombinant	● Purification Protein A	● Storage Short term: +4 °C Long term: -80 °C
● Target type Small molecule	● Host Rabbit	● Concentration 1 mg/mL	● Applications ● Lateral flow assay ● ELISA, CLIA, RIA etc.
● Clonality Monoclonal	● Conjugation Upon request	● Storage buffer PBS	

Conjugate specification

● Conjugate ● BSA-DHEA ● Reactive hapten (upon request)	● Concentration 1 mg/mL	● Storage buffer PBS	● Storage -20 °C or below
---	----------------------------	-------------------------	------------------------------

Clone information

Clone number	Affinity, nM DHEA	X-reactivity, % DHEAS*	X-reactivity, % Androstenedione	X-reactivity, % Pregnenolone
DB-201349	0.8 ± 0.1	0.008 ± 0.001	0.05 ± 0.01	0.004 ± 0.002
DB-201352	0.35 ± 0.08	0.009 ± 0.002	0.28 ± 0.07	0.019 ± 0.008
DB-201353	0.15 ± 0.01	0.008 ± 0.001	0.18 ± 0.09	0.22 ± 0.06
DB-201355	0.34 ± 0.03	0.053 ± 0.009	0.7 ± 0.2	0.11 ± 0.06
DB-201357	0.74 ± 0.06	0.008 ± 0.001	0.085 ± 0.009	0.07 ± 0.03
DB-201358	0.27 ± 0.02	0.008 ± 0.001	0.36 ± 0.06	0.006 ± 0.002

All values are presented as mean ± standard deviation.

*DHEAS – Dehydroepiandrosterone sulfate

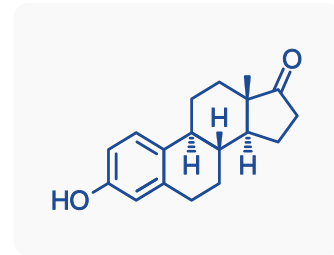
Literature

1. Lin H.-Y., Jie-Hong C., Kuo-Hu C. The sex hormone precursors dehydroepiandrosterone (DHEA) and its sulfate ester form (DHEAS): molecular mechanisms and actions on human body. *International Journal of Molecular Sciences*. 26(17): 8568 (2025).



DB Anti-Estrone Rabbit mAb

Estrone (E1) is an endogenous estrogenic steroid formed primarily by aromatization of androstenedione in peripheral tissues. After menopause, it becomes the main circulating estrogen. Acting through estrogen receptors ER α , ER β , and GPER1, estrone modulates a broad range of physiological systems, including central nervous, metabolic, and skeletal functions¹. Estrone testing helps assess overall hormonal status and identify changes associated with menopause. It is also used to detect or monitor tumors that produce estrogen-related hormones. We offer ultra-high-affinity rabbit recombinant monoclonal antibodies against estrone, available either as ready-to-use recombinant proteins (including BSA conjugate) or through licensing.



Antibody specification

- **Target**
Estrone
- **Immunogen**
VLP-Estrone
- **Target type**
Small molecule
- **Clonality**
Monoclonal
- **Isotype**
IgG-Kappa 1
- **Class**
Recombinant
- **Host**
Rabbit
- **Conjugation**
Upon request
- **Expression**
Mammalian
- **Purification**
Protein A
- **Concentration**
1mg/mL
- **Storage buffer**
PBS
- **Field**
Hormone
- **Storage**
Short term: +4 °C
Long term: -80 °C
- **Applications**
● Lateral flow assay
● ELISA, CLIA, RIA etc.

Conjugate specification

- **Conjugate**
● BSA-Estrone
● Reactive hapten (upon request)
- **Concentration**
1mg/mL
- **Storage buffer**
PBS
- **Storage**
-20 °C or below

Clone information

Clone number	Affinity, nM Estrone	X-reactivity, % 17 β -Estradiol	X-reactivity, % Estrone-3-sulfate	X-reactivity, % 17 α -Estradiol	X-reactivity, % Estrone-3-D-glucuronide	X-reactivity, % Estradiol 17 β -D-glucuronide
DB-201605	0.029 \pm 0.013	0.4 \pm 0.2	0.2 \pm 0.1	0.11 \pm 0.06	0.3 \pm 0.1	0.002 \pm 0.001
DB-201512	0.010 \pm 0.007	16 \pm 12	0.21 \pm 0.16	0.09 \pm 0.06	0.4 \pm 0.3	0.004 \pm 0.003
DB-201518	0.053 \pm 0.005	0.49 \pm 0.11	0.30 \pm 0.05	0.009 \pm 0.002	0.07 \pm 0.01	0.0016 \pm 0.0002
DB-201524	0.029 \pm 0.010	0.11 \pm 0.04	1.1 \pm 0.4	0.007 \pm 0.003	0.04 \pm 0.02	0.0007 \pm 0.0003
DB-201515	0.033 \pm 0.005	0.43 \pm 0.09	0.44 \pm 0.08	0.010 \pm 0.002	0.42 \pm 0.09	0.0014 \pm 0.0004
DB-201858	0.017 \pm 0.005	2.6 \pm 0.9	0.16 \pm 0.06	0.04 \pm 0.01	0.06 \pm 0.02	0.0024 \pm 0.0007

All values are presented as mean \pm standard deviation.

Literature

1. Ridichie A. et al. Understanding the biological activity of endogenous estrogens: current knowledge and insights. *Journal of Experimental Pharmacology and Toxicology*. 2(2): 4 (2025).

DB Antibodies

Drugs of Abuse

DB Anti-Mitragynine Rabbit mAb

DB Anti-Mitraphylline Rabbit mAb

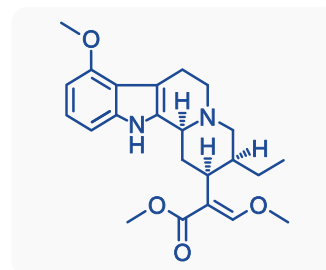
DB Anti-Nitazenes Rabbit mAb

DB Anti-Desnitazenes Rabbit mAb



DB Anti-Mitragynine Rabbit mAb

Mitragynine is the main active alkaloid in **KRATOM** (*Mitragyna speciosa*), producing stimulant-like effects at lower doses and more sedating or analgesic effects at higher doses by interacting primarily with μ -opioid receptors. It is often misused for self-treatment of pain, anxiety, or opioid withdrawal, but it carries risks of dependence, withdrawal, and potentially dangerous interactions, especially with alcohol, benzodiazepines, or opioids. Legality varies widely: kratom and mitragynine are legal in many regions but are banned or controlled in others. We offer ultra-high-affinity rabbit recombinant monoclonal antibodies against mitragynine, available either as ready-to-use recombinant proteins (including BSA conjugate) or through licensing.



Antibody specification

● Target Mitragynine	● Isotype IgG-Kappa 1	● Expression Mammalian	● Field Drug of abuse
● Immunogen VLP-Mitragynine	● Class Recombinant	● Purification Protein A	● Storage Short term: +4 °C Long term: -80 °C
● Target type Small molecule	● Host Rabbit	● Concentration 1 mg/mL	● Applications ● Lateral flow assay ● CLIA ● ELISA
● Clonality Monoclonal	● Conjugation Upon request	● Storage buffer PBS	

Conjugate specification

● Conjugate ● BSA-Mitragynine ● Reactive hapten (upon request)	● Concentration 1 mg/mL	● Storage buffer PBS	● Storage -20 °C or below
---	----------------------------	-------------------------	------------------------------

Clone information

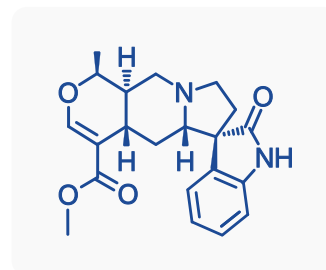
Clone number	Affinity, nM Mitragynine	Affinity, nM 7-OH Mitragynine	Affinity Mitraphylline
DB-202386	0.39 ± 0.04	110 ± 10	>20 μM
DB-202387	0.14 ± 0.02	35 ± 5	>20 μM
DB-202388	0.56 ± 0.06	160 ± 10	>20 μM
DB-202390	0.13 ± 0.01	22 ± 9	>20 μM
DB-202392	0.95 ± 0.11	260 ± 10	>20 μM
DB-202397	0.10 ± 0.01	21 ± 3	>20 μM
DB-202405	0.25 ± 0.04	58 ± 7	>20 μM

All values are presented as mean ± standard deviation.



DB Anti-Mitrephylline Rabbit mAb

Mitrephylline is a main alkaloid present in *Mitragyna hirsuta* and *Mitragyna javanica*¹ often marketed as **KRATOM alternative**, whereas it is absent in *Mitragyna speciosa* (**KRATOM**). Some studies indicate anti-inflammatory, immunomodulatory, and potential anti-cancer effects². Mitrephylline is an opioid-active compound that binds to the μ -opioid receptor to produce morphine-like effects³, but its risk profile is not well established, and it may also interact with other substances. Mitrephylline is currently not regulated, whereas kratom itself is regulated or restricted in several regions. We offer ultra-high-affinity rabbit recombinant monoclonal antibodies against mitrephylline, likely **the first commercially available antibodies against this target**, available either as ready-to-use recombinant proteins (including BSA conjugate) or through licensing.



Antibody specification

● Target Mitrephylline	● Isotype IgG-Kappa 1	● Expression Mammalian	● Field Drug of abuse
● Immunogen VLP-Mitrephylline	● Class Recombinant	● Purification Protein A	● Storage Short term: +4 °C Long term: -80 °C
● Target type Small molecule	● Host Rabbit	● Concentration 1 mg/mL	● Applications ● Lateral flow assay ● ELISA, CLIA, RIA etc.
● Clonality Monoclonal	● Conjugation Upon request	● Storage buffer PBS	

Conjugate specification

● Conjugate ● BSA-Mitrephylline ● Reactive hapten (upon request)	● Concentration 1 mg/mL	● Storage buffer PBS	● Storage -20 °C or below
--	----------------------------	-------------------------	------------------------------

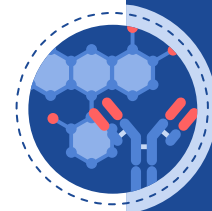
Clone information

Clone number	Affinity, pM Mitrephylline	Affinity Mitragnine	Clone number	Affinity, pM Mitrephylline	Affinity Mitragnine
DB-202633	6.8 ± 1.2	>1.5 μM	DB-202650	6.0 ± 1.3	>1.5 μM
DB-202634	3.8 ± 1.2	>1.5 μM	DB-202666	35 ± 6	>1.5 μM
DB-202639	4.3 ± 1.1	>1.5 μM	DB-202667	8.4 ± 2.5	>1.5 μM
DB-202641	79 ± 13	>1.5 μM	DB-202668	28 ± 6	>1.5 μM
DB-202642	223 ± 18	>1.5 μM			

All values are presented as mean ± standard deviation.

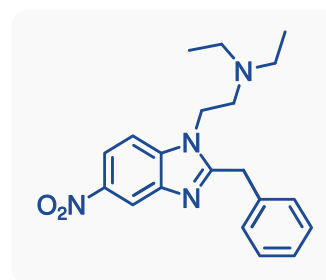
Literature

- University of Chemistry and Technology Prague. Forensic Laboratory of Biologically Active Substances (BAFA). UCT Prague (2026).
- Varli M. et al. Strictosamide and mitrephylline inhibit cancer cell motility by suppressing epithelial-mesenchymal transition via integrin $\alpha 4$ -mediated signaling. *Scientific Reports*. 15(1): 22807 (2025).
- Sudmoon R. et al. Discovery of rhynchophylline and mitrephylline in two Thai *Mitragyna* species and the investigation of their biological activity via opioid gene expression analysis. *Scientific reports*. 15(1): 5865 (2025).



DB Anti-Nitazenes Rabbit mAb

Nitazenes are a group of highly potent synthetic opioids originally developed in the 1950s but never approved for medical use due to dangerous side effects and severe toxicity. They act as strong μ -opioid receptor agonists, and several analogues can equal or exceed the potency of fentanyl. Since 2019, nitazenes have reappeared in illicit markets, often found in powders, counterfeit pills, or mixed with fentanyl, heroin, or cocaine, usually without users' knowledge. They pose a high risk of fatal respiratory depression, dependence, withdrawal and overdoses. Many nitazenes are increasingly subject to international regulation due to their significant danger¹. We offer ultra-high-affinity rabbit recombinant monoclonal antibodies against nitazenes, available either as ready-to-use recombinant proteins (including BSA conjugate) or through licensing.



Antibody specification

● Target Nitazene	● Isotype IgG-Kappa 1	● Expression Mammalian	● Field Drug of abuse
● Immunogen VLP-Nitazene	● Class Recombinant	● Purification Protein A	● Storage Short term: +4 °C Long term: -80 °C
● Target type Small molecule	● Host Rabbit	● Concentration 1 mg/mL	● Applications ● Lateral flow assay ● CLIA ● ELISA
● Clonality Monoclonal	● Conjugation Upon request	● Storage buffer PBS	

Conjugate specification

● Conjugate ● BSA-Nitazene ● Reactive hapten (upon request)	● Concentration 1 mg/mL	● Storage buffer PBS	● Storage -20 °C or below
--	----------------------------	-------------------------	------------------------------

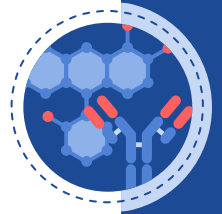
Clone information

Our antibodies can detect all nitazenes and desnitazenes reported to date by authorities (DEA and Europol), as well as their known metabolites:

#	Nitazene derivative	#	Nitazene derivative	#	Nitazene derivative
1	Etonitazene	8	N-desethyl etonitazene	15	Etometazene
2	Metonitazene	9	N-pyrrolidino fluetonitazene	16	Isotometazene
3	Flunitazene	10	N-pyrrolidino ethylene isotonitazene	17	Etodesnitazene
4	Methylenedioxyntazene	11	N-pyrrolidino ethylene protonitazene	18	Clodesnitazene
5	Isotonitazene	12	5-cyano protodesnitazene	19	Desethyletodesnitazene
6	Protonitazene	13	5-cyano isotodesnitazene		
7	Fluetonitazene	14	Metometazene		

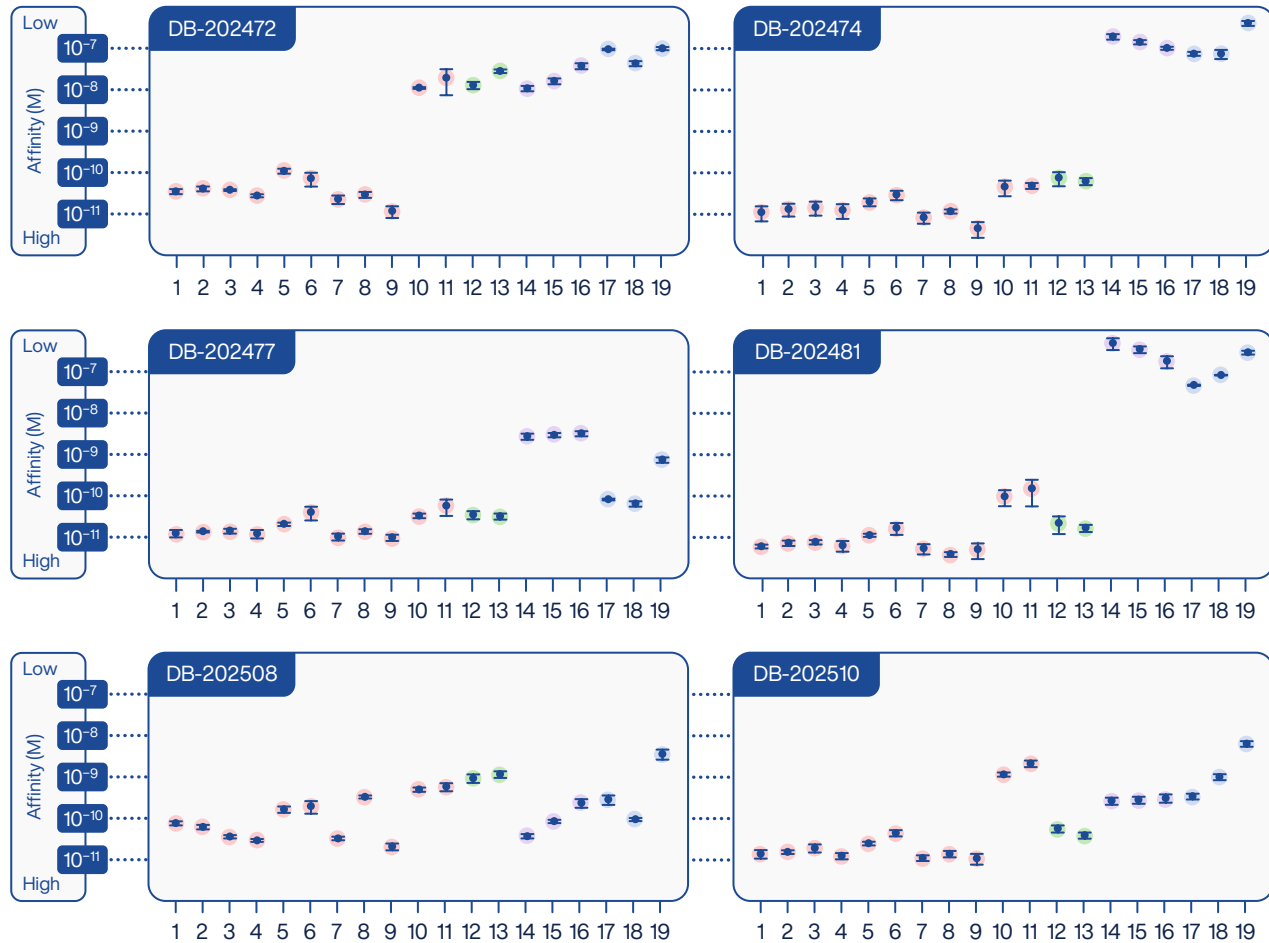
Literature

1. Pereira J. R. P., Alexandre Q, Nuno R. N. Nitazenes: The Emergence of a Potent Synthetic Opioid Threat. *Molecules*. 30(19): 3890 (2025).

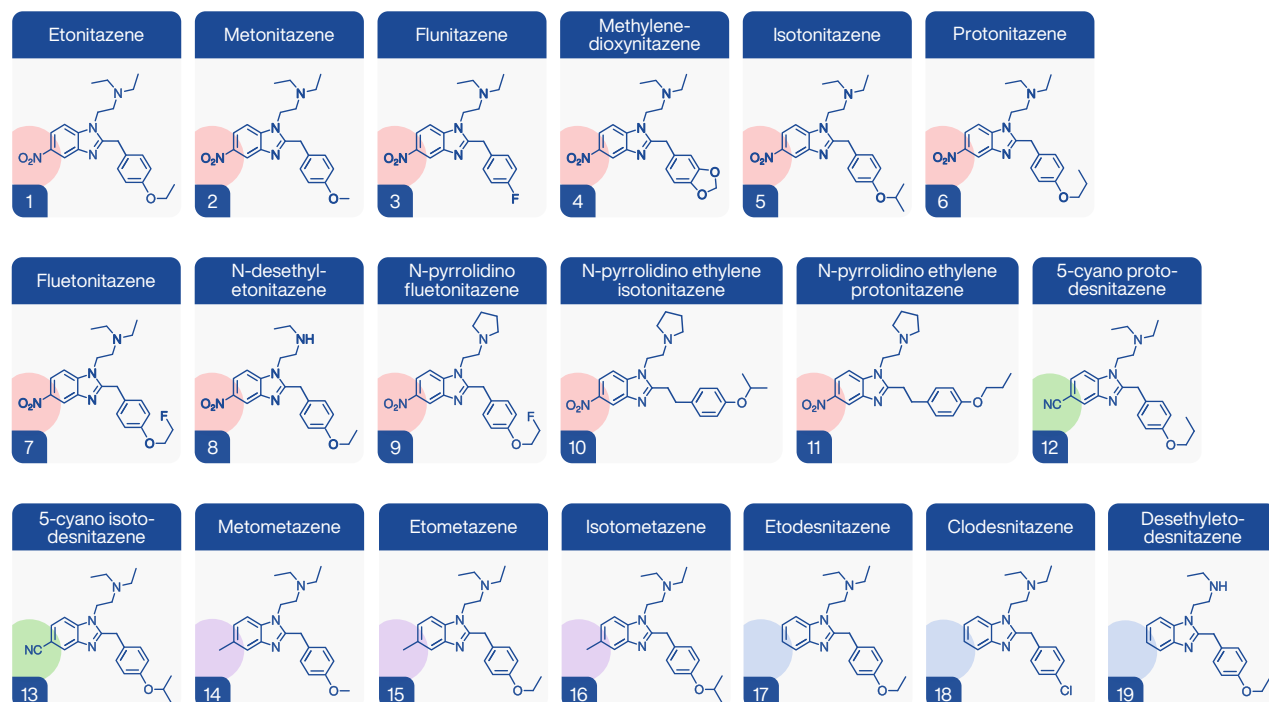


DB Anti-Nitazenes Rabbit mAb

Affinities to selected nitazene derivatives



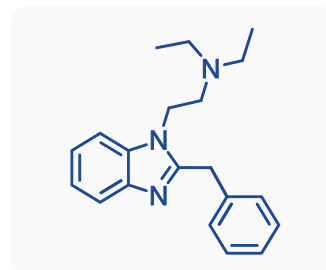
Targets





DB Anti-Desnitazenes Rabbit mAb

Desnitazenes are synthetic opioids originally synthesized in the 1950s during early explorations of non-morphinan analgesics. They belong to the broader nitazene class but differ in the absence of a 5-nitro group. This reduces their potency compared to nitro-substituted nitazenes. However, they still act as strong μ -opioid receptor agonists with higher potency than morphine, which creates a substantial risk of respiratory depression even at low doses. Desnitazenes have appeared since 2021 as designer drugs in powders or mixed with other opioids, and several countries have begun placing them under strict legal control^{1,2}. We offer ultra-high-affinity rabbit recombinant monoclonal antibodies against desnitazenes, available either as ready-to-use recombinant proteins (including BSA conjugate) or through licensing.



Antibody specification

● Target Desnitazene	● Isotype IgG-Kappa 1	● Expression Mammalian	● Field Drug of abuse
● Immunogen VLP-Desnitazene	● Class Recombinant	● Purification Protein A	● Storage Short term: +4 °C Long term: -80 °C
● Target type Small molecule	● Host Rabbit	● Concentration 1 mg/mL	● Applications ● Lateral flow assay ● CLIA ● ELISA
● Clonality Monoclonal	● Conjugation Upon request	● Storage buffer PBS	

Conjugate specification

● Conjugate ● BSA-Desnitazene ● Reactive hapten (upon request)	● Concentration 1 mg/mL	● Storage buffer PBS	● Storage -20 °C or below
--	----------------------------	-------------------------	------------------------------

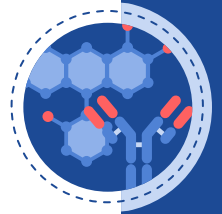
Clone information

Our antibodies can detect all nitazenes and desnitazenes reported to date by authorities (DEA and Europol), as well as their known metabolites:

#	Nitazene derivative	#	Nitazene derivative	#	Nitazene derivative
1	Etonitazene	8	N-desethyl etonitazene	15	Etometazene
2	Metonitazene	9	N-pyrrolidino fluetonitazene	16	Isotometazene
3	Flunitazene	10	N-pyrrolidino ethylene isotonitazene	17	Etodesnitazene
4	Methylenedioxyntazene	11	N-pyrrolidino ethylene protonitazene	18	Clodesnitazene
5	Isotonitazene	12	5-cyano protodesnitazene	19	Desethyletodesnitazene
6	Protonitazene	13	5-cyano isotodesnitazene		
7	Fluetonitazene	14	Metometazene		

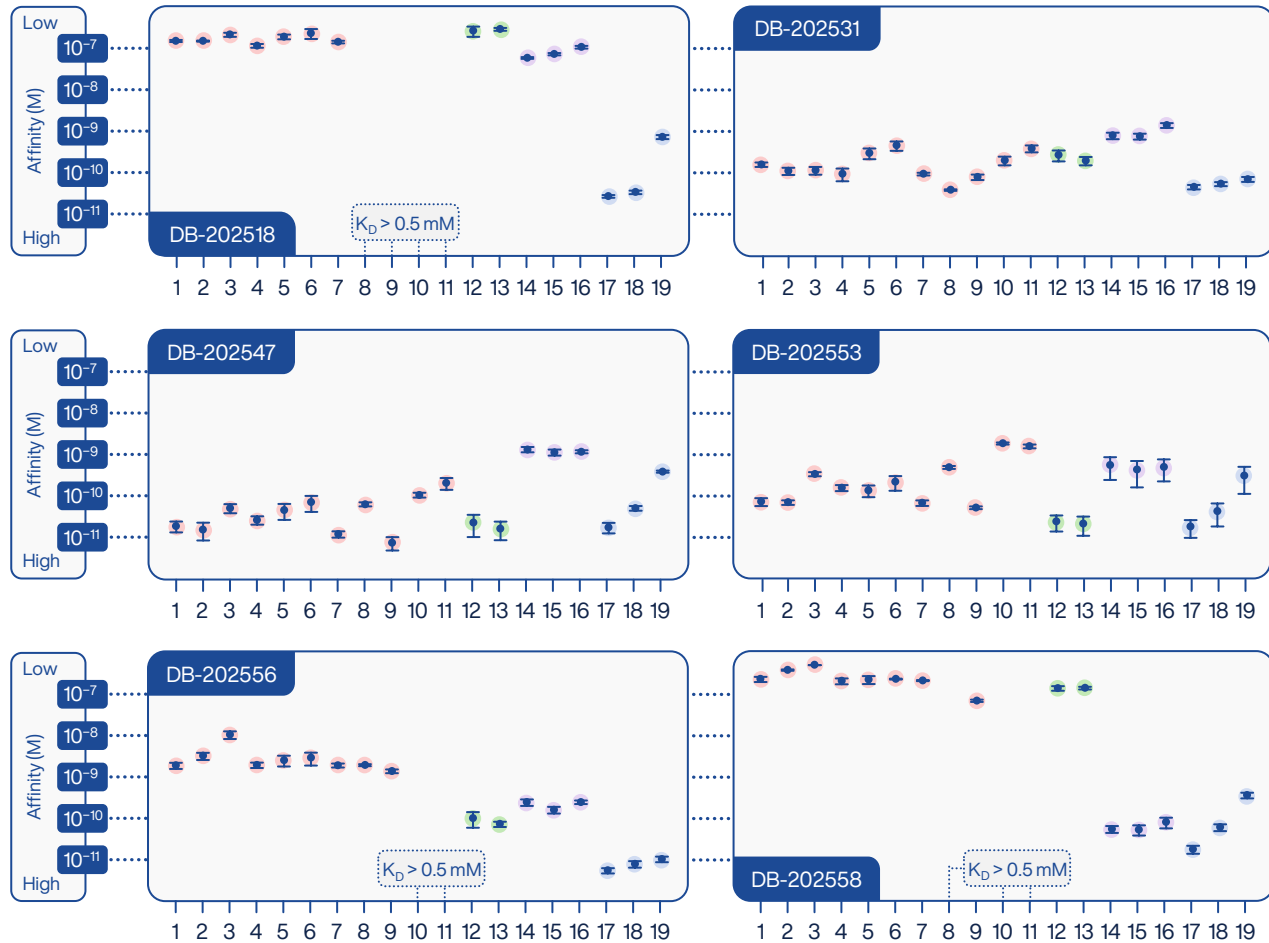
Literature

- Schumann J. L. et al. Intoxications in an Australian emergency department involving 'nitazene' benzylbenzimidazole synthetic opioids (etodesnitazene, butonitazene and protonitazene). *Journal of Analytical Toxicology*. 47(1): e6-9 (2023).
- Taoussi O. et al. Human metabolism of four synthetic benzimidazole opioids: isotonitazene, metonitazene, etodesnitazene, and metodesnitazene. *Archives of Toxicology*. 98(7): 2101-16 (2024).

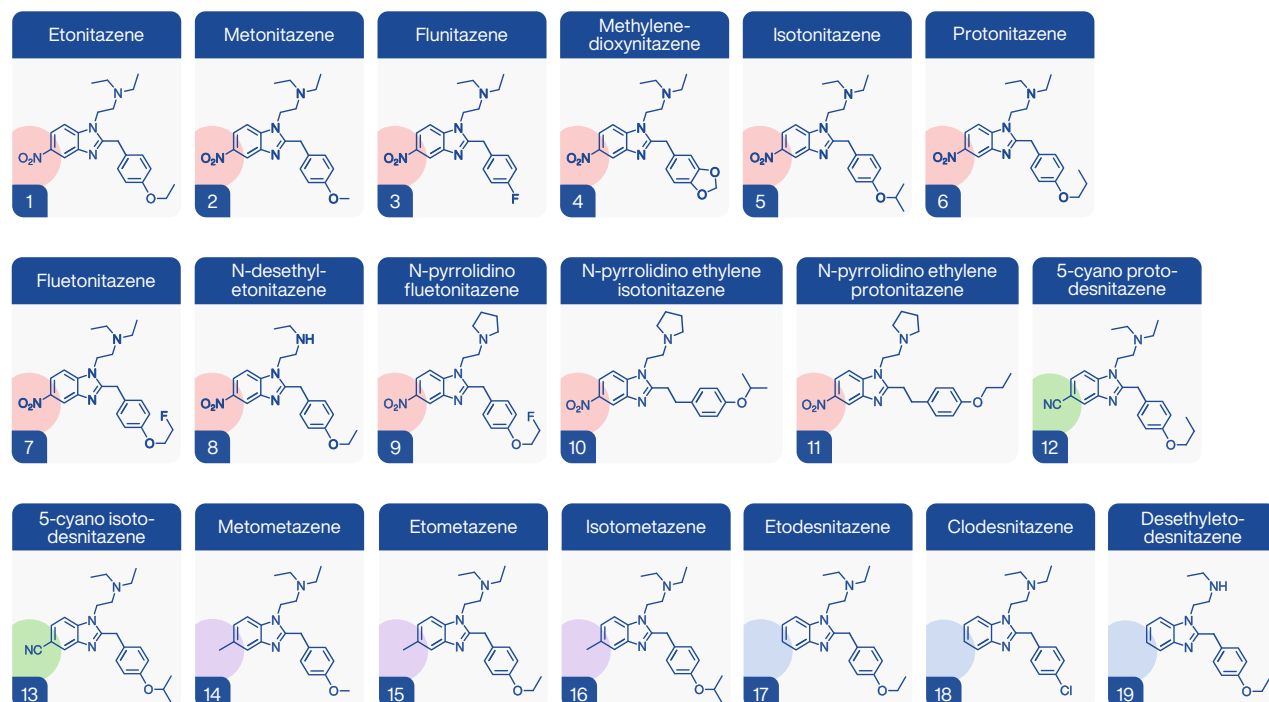


DB Anti-Desnitazenes Rabbit mAb

Affinities to selected nitazene derivatives



Targets



DB Antibodies Peptides and Proteins

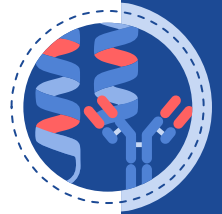
DB Anti-GluA1 Rabbit mAb

DB Anti-GluA2 Rabbit mAb

DB Anti-GluA3 Rabbit mAb

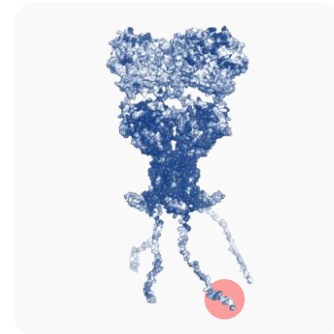
DB Anti-Taq Polymerase Rabbit mAb

DB Anti-GST Rabbit mAb



DB Anti-GluA1 Rabbit mAb

The **AMPA receptor subunit GluA1** is a key component of ionotropic glutamate receptors that mediate fast excitatory synaptic transmission in the central nervous system. AMPA receptors are tetrameric ion channels assembled from combinations of the subunits GluA1–GluA4. GluA1 is widely expressed in the mammalian brain, particularly in the cortex and hippocampus. GluA1-containing receptors play a critical role in synaptic plasticity, including activity-dependent trafficking during long-term potentiation (LTP), a fundamental mechanism underlying learning and memory. Alterations in GluA1 expression have been associated with changes in neuronal excitability and various neurological disorders¹. We offer rabbit recombinant monoclonal antibodies against GluA1 with high binding affinity ($K_D < 500$ pM), as well as polyclonal antibodies. These antibodies are ideally suited for applications such as Western blot, immunoprecipitation, or ELISA.



Antibody specification

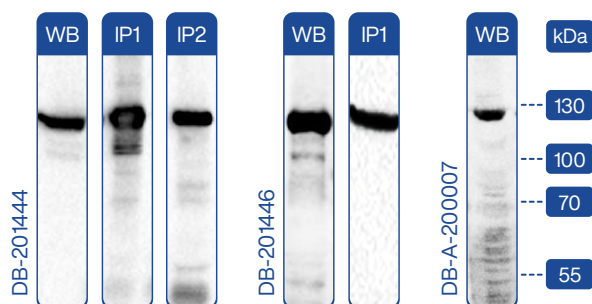
- **Target**
GluA1
- **Specificity**
Human, Mouse, Rat, Pig
- **Host**
Rabbit
- **Conjugation**
Upon request
- **Target type**
Protein
- **Isotype**
IgG-Kappa 1
- **Expression**
Mammalian
- **Field**
Neuroscience
- **Immunogen**
GluA1 specific peptide conjugated to VLP
- **Clonality**
Monoclonal (polyclonal)
- **Concentration**
1 mg/mL
- **Applications**
 - Western blot
 - Immunoprecipitation
 - ELISA
 - IC/IHC not tested
- **Epitope**
C-terminal domain
SHSSGMPLGATGL
- **Class**
Recombinant
- **Storage buffer**
PBS

Clone information

Clone number Clonality	GluA1 K_D , pM human, rat, mouse	GluA1 K_D , pM (pig) (X-reactivity, %)	GluA4 K_D , pM (X-reactivity, %)
DB-201444 Monoclonal	160 ± 40	200 ± 20 (81 ± 21)	3.7 ± 0.6 × 10 ⁶ (0.0044 ± 0.0012)
DB-201446 Monoclonal	420 ± 170	370 ± 180 (110 ± 70)	10.0 ± 6.0 × 10 ⁶ (0.0041 ± 0.0029)
DB-A-200007 Polyclonal	888 ± 322*	/	5.4 ± 0.21 × 10 ⁶ * (0.017 ± 0.001)

All values are presented as mean ± standard deviation.

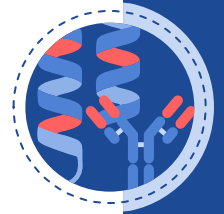
* The data are based on the IC50 value.



- WB** Immunodetection of recombinant GluA1 subunit from HEK293 cell lysate.
- IP1** Immunoprecipitation of recombinant GluA1 subunit from HEK293 cell lysate using DB antibody. Detection by anti-GluA1 rabbit polyclonal antibody AB31232 (Abcam).
- IP2** Immunoprecipitation of GluA1 subunit from pig brain using DB antibody. Detection by anti-GluA1 rabbit polyclonal antibody AB31232 (Abcam).

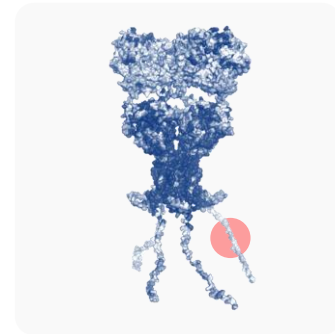
Literature

1. Hansen K.B., Wollmuth L.P., Bowie D. et al. Structure, function, and pharmacology of glutamate receptor ion channels. *Pharmacological Reviews*. 73(4):298 – 487 (2021).



DB Anti-GluA2 Rabbit mAb

The **AMPA receptor subunit GluA2** is a key component of ionotropic glutamate receptors that mediate fast excitatory synaptic transmission in the central nervous system. AMPA receptors are tetrameric ion channels composed of combinations of GluA1–GluA4 subunits. GluA2 is highly expressed throughout the adult mammalian brain and plays a crucial role in determining the functional properties of AMPA receptors. Notably, the presence of GluA2 renders AMPA receptor channels largely impermeable to Ca^{2+} ions, making it an essential regulator of excitatory synaptic signaling and neuronal calcium homeostasis. Changes in GluA2 expression have been implicated in neurological conditions such as ischemia, neurodegeneration, and addiction-related plasticity¹. We offer rabbit recombinant monoclonal antibodies against GluA2 ($K_D < 15 \text{ nM}$), as well as polyclonal antibodies. These antibodies are ideally suited for applications such as Western blot, Immunoprecipitation, or ELISA.



Antibody specification

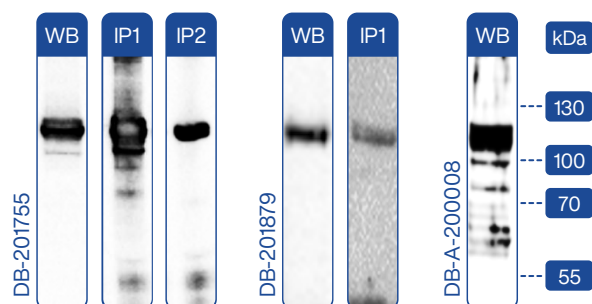
- **Target**
GluA2
- **Specificity**
Human, Mouse, Rat, Pig
- **Host**
Rabbit
- **Conjugation**
Upon request
- **Target type**
Protein
- **Isotype**
IgG-Kappa 1
- **Expression**
Mammalian
- **Field**
Neuroscience
- **Immunogen**
GluA2 specific peptide conjugated to VLP
- **Clonality**
Monoclonal (polyclonal)
- **Concentration**
1 mg/mL
- **Applications**
 - Western blot
 - Immunoprecipitation
 - ELISA
 - *IC/IHC not tested*
- **Epitope**
C-terminal domain
VAKNPQINPSSSQNS
- **Class**
Recombinant
- **Storage buffer**
PBS

Clone information

Clone number	GluA2 K_D , nM rat	GluA2 K_D , nM (human, mouse, pig) (X-reactivity, %)	GluA3 K_D , nM (X-reactivity, %)
DB-201755 Monoclonal	14.8 ± 4.2	299.2 ± 25.3 (4.9 ± 1.5)	3506 ± 663 (0.42 ± 0.14)
DB-201879 Monoclonal	7.6 ± 1.4	990 ± 730 (0.77 ± 0.59)	N.D.
DB-A-200008 Polyclonal	71 ± 66*	278 ± 183* (25.5 ± 16.8)	7862 ± 6251* (0.9 ± 0.7)

All values are presented as mean ± standard deviation.

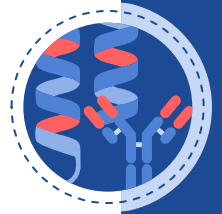
* The data are based on the IC50 value.



- WB** Immunodetection of recombinant GluA2 subunit from HEK293 cell lysate.
- IP1** Immunoprecipitation of recombinant GluA2 subunit from HEK293 cell lysate using DB antibody. Detection by anti-GluA2 rabbit polyclonal antibody SAB4501295 (Sigma).
- IP2** Immunoprecipitation of GluA2 subunit from pig brain using DB antibody. Detection by anti-GluA2 rabbit polyclonal antibody SAB4501295 (Sigma).

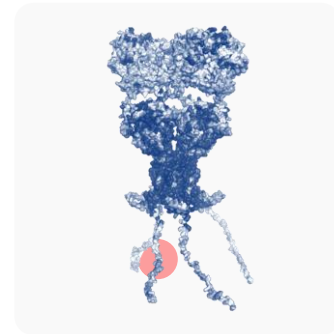
Literature

1. Hansen K.B., Wollmuth L.P., Bowie D. et al. Structure, function, and pharmacology of glutamate receptor ion channels. *Pharmacological Reviews*. 73(4):298 – 487 (2021).



DB Anti-GluA3 Rabbit mAb

The **AMPA receptor subunit GluA3** is a key component of ionotropic glutamate receptors that mediate fast excitatory synaptic transmission in the central nervous system. AMPA receptors are tetrameric ion channels assembled from combinations of GluA1–GluA4 subunits. GluA3 is broadly expressed across multiple brain regions, including the cortex, hippocampus, and striatum, where it contributes to heterotetrameric AMPA receptor complexes. The relative abundance of GluA3 can influence receptor composition and plays a role in fine-tuning excitatory synaptic signaling. Altered GluA3 expression has been associated with neurological conditions, including neurodegenerative diseases and epilepsy¹. We provide rabbit recombinant monoclonal antibodies against GluA3 with high binding affinity ($K_D < 300$ pM), as well as polyclonal antibodies. These antibodies are ideally suited for applications such as Western blot, immunoprecipitation, or ELISA.



Antibody specification

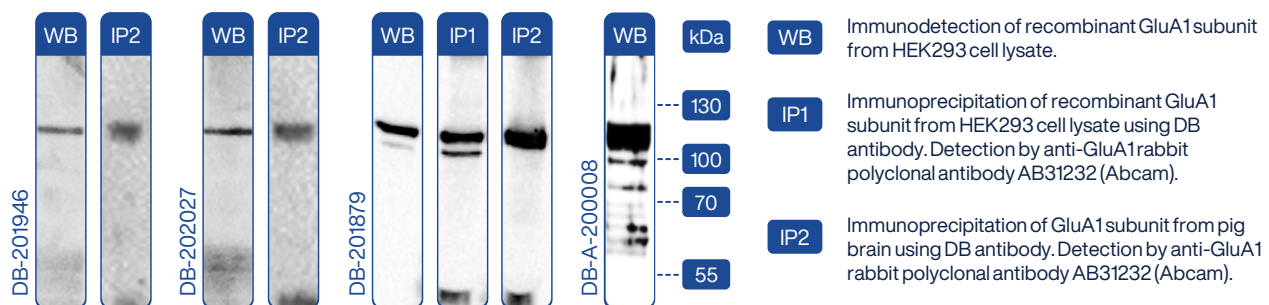
● Target GluA3	● Specificity Human, Mouse, Rat, Pig	● Host Rabbit	● Conjugation Upon request
● Target type Protein	● Isotype IgG-Kappa 1	● Expression Mammalian	● Field Neuroscience
● Immunogen GluA3 specific peptide conjugated to VLP	● Clonality Monoclonal (polyclonal)	● Concentration 1 mg/mL	● Applications ● Western blot ● Immunoprecipitation ● ELISA ● <i>IC/IHC not tested</i>
● Epitope C-terminal domain NTQNFKPAPATNTQ	● Class Recombinant	● Storage buffer PBS	

Clone information

Clone number	GluA3 K_D , pM rat, human, mouse, pig	GluA2 K_D , pM (X-reactivity, %)	Clone number	GluA3 K_D , pM rat, human, mouse, pig	GluA2 K_D , pM (X-reactivity, %)
DB-201946 Monoclonal	260 ± 10	N. D.	DB-A-200009 Polyclonal	60 ± 35 × 10 ^{3*}	5.8 ± 3.1 × 10 ^{6*} (1 ± 0.6)
DB-202027 Monoclonal	760 ± 160	N. D.	DB-A-200010 Polyclonal	19 ± 9 × 10 ^{3*}	4.8 ± 2.8 × 10 ^{6*} (0.4 ± 0.2)

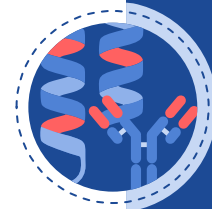
All values are presented as mean ± standard deviation.

* The data are based on the IC50 value.



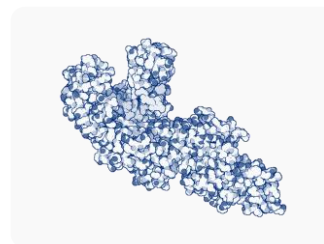
Literature

1. Hansen K.B., Wollmuth L.P., Bowie D. et al. Structure, function, and pharmacology of glutamate receptor ion channels. *Pharmacological Reviews*. 73(4):298 – 487 (2021).



DB Anti-Taq Polymerase Rabbit mAb

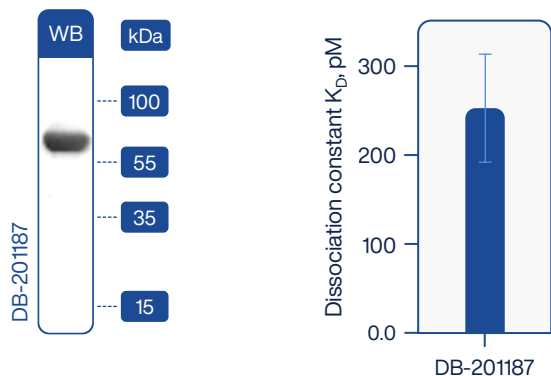
Taq DNA polymerase is a thermostable enzyme widely used in molecular biology for DNA amplification techniques such as polymerase chain reaction (PCR). Originally isolated from the thermophilic bacterium *Thermus aquaticus*, Taq polymerase retains activity at the elevated temperatures required for DNA denaturation. It is broadly utilized in research, diagnostics, and biotechnology applications. We offer a rabbit recombinant monoclonal antibody (DB-201187) against Taq DNA polymerase with high binding affinity ($K_D < 300$ pM), specifically engineered to enable hot-start PCR. In addition, clone DB-201187 is well suited for applications such as Western blot, Immunoprecipitation, and ELISA.



Antibody specification

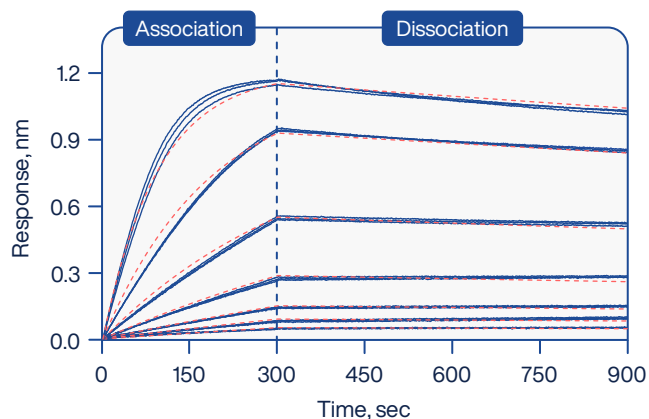
- | | | | |
|--|--|---|--|
| ● Target
Taq DNA Polymerase | ● Specificity
<i>Thermus aquaticus</i> | ● Host
Rabbit | ● Conjugation
Upon request |
| ● Target type
Protein | ● Isotype
IgG-Kappa 1 | ● Expression
Mammalian | ● Field
Molecular biology |
| ● Immunogen
Stoffel fragment of Taq DNA polymerase | ● Clonality
Monoclonal (polyclonal) | ● Concentration
500 U/ μ l* | ● Applications
● Hot-start PCR
● Western blot
● Immunoprecipitation
● ELISA |
| ● Epitope
Not determined (within Stoffel fragment) | ● Class
Recombinant | ● Storage buffer
PBS | |

Clone information



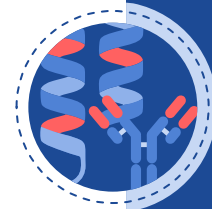
Western blot (WB) analysis demonstrates specific detection of the Stoffel fragment of Taq DNA polymerase (~61 kDa) using clone DB-201187.

DIANA competitive assay demonstrates high-affinity binding of clone DB-201187 to Taq DNA polymerase, with K_D of 252.2 ± 60.4 pM.



Bi-layer interferometry (BLI) analysis of clone DB-201187 shows high-affinity binding to Taq DNA polymerase (K_D 297 pM), with rapid association ($k_{on} = 5.69 \times 10^5$ M⁻¹s⁻¹) and slow dissociation ($k_{off} = 1.69 \times 10^{-4}$ s⁻¹). The data showed a good fit to the applied binding model ($R^2 = 0.998$).

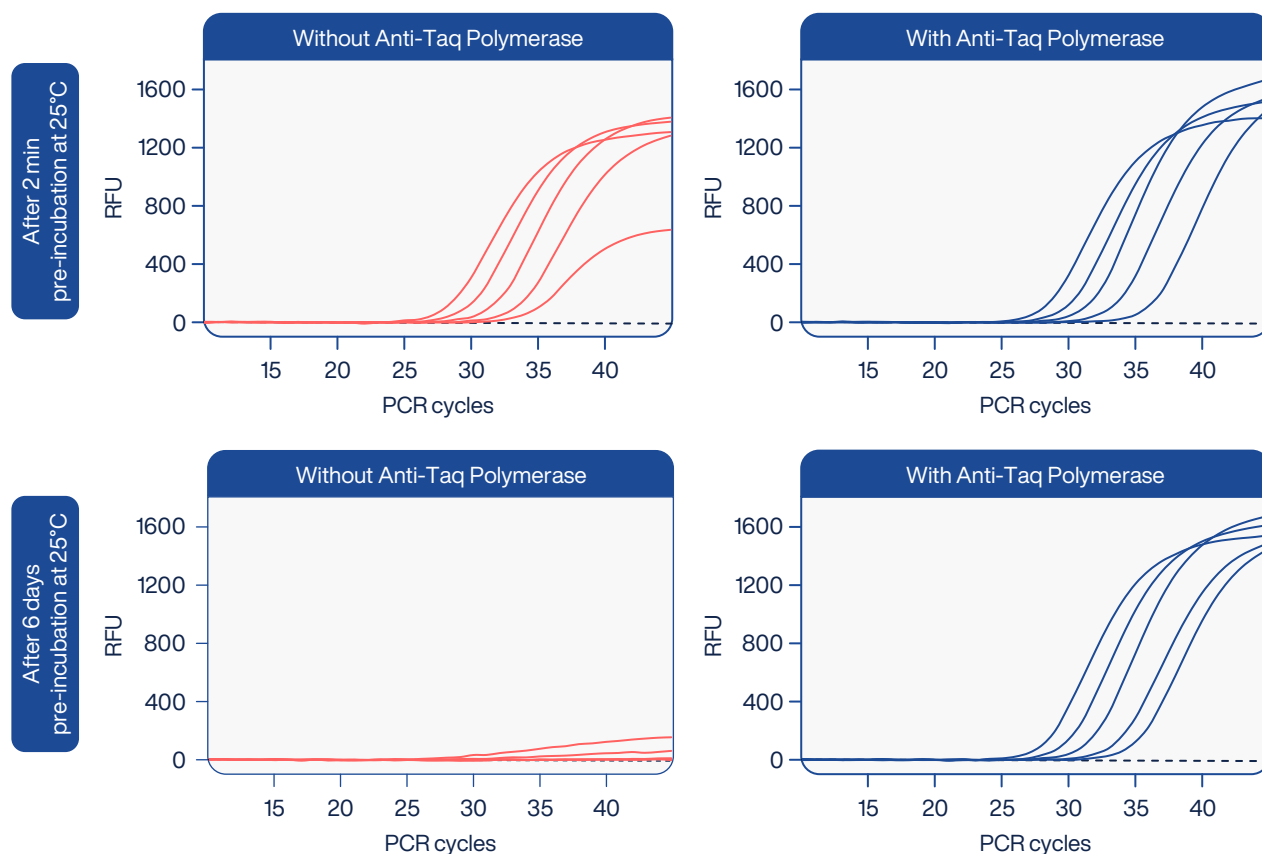
*For optimal hot-start performance, use 5 U of antibody per 1 U of Taq polymerase to ensure complete enzyme inactivation prior to thermal activation.



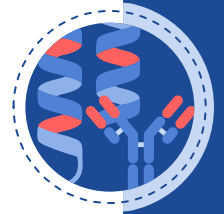
DB Anti-Taq Polymerase Rabbit mAb

Antibody-Mediated Hot-Start for Controlled Polymerase Activation

Anti-Taq Polymerase provides effective hot-start control by inhibiting polymerase activity at room temperature (25 °C), thereby preventing premature enzyme activity during reaction setup and minimizing non-specific amplification (e.g., primer-dimer products). Upon thermal activation, the enzyme is rapidly released, enabling efficient and reproducible target amplification. In multiplex qPCR, Anti-Taq Polymerase, as part of DBdirect™ PCR Probe Mix SuperSens 2.0, ensures strong fluorescence signal and consistent amplification across targets. The data below demonstrate clean, consistent, and stable PCR performance even after 6 days of room temperature (25 °C) preincubation, whereas no detectable amplification is observed under the same conditions without Anti-Taq Polymerase.



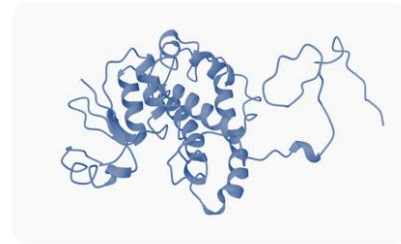
Detection of viral target (FAM) by qPCR using DBdirect™ PCR Probe Mix SuperSens 2.0 with and without Anti-Taq Polymerase
PCR protocol: 2 min / 6 days at 25°C, 2 min at 95°C, 45 cycles: 10 sec at 95°C, 15 sec at 60°C, 15 sec at 72°C.
Dilution series of the template: 1,000 – 316 – 100 – 32 – 10 copies per well.



DB Anti-GST Rabbit mAb

Glutathione S-transferase (GST) is a commonly used affinity tag for the expression, purification, and detection of recombinant proteins. Anti-GST antibodies enable universal and sequence-independent detection of GST-fusion proteins, making them a valuable tool for monitoring protein expression and purification¹.

We offer rabbit recombinant monoclonal anti-GST antibodies with high binding affinity ($K_D < 500$ pM). These antibodies provide robust and reliable performance across common applications, including Western blot, immunoprecipitation, and ELISA.



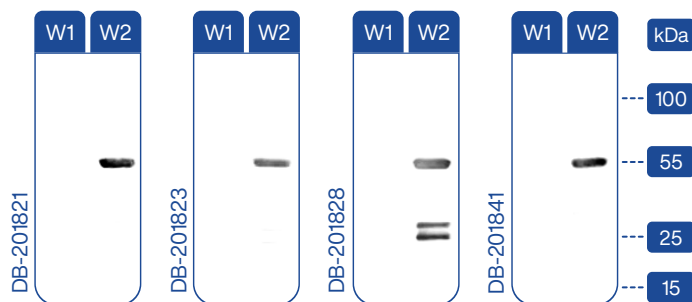
Antibody specification

- **Target**
GST
- **Specificity**
Schistosoma japonicum
- **Host**
Rabbit
- **Conjugation**
Upon request
- **Target type**
Protein
- **Isotype**
IgG-Kappa 1
- **Expression**
Mammalian
- **Field**
Protein purification
- **Immunogen**
GST
- **Clonality**
Monoclonal (polyclonal)
- **Concentration**
1 mg/mL
- **Applications**
● Western blot
● Immunoprecipitation
● ELISA
- **Epitope**
Not specified
- **Class**
Recombinant
- **Storage buffer**
PBS

Clone information

Clone number	Affinity, pM Glutathione S-transferase	Clone number	Affinity, pM Glutathione S-transferase
DB-201821 Monoclonal	149 ± 26	DB-201828 Monoclonal	288 ± 59
DB-201823 Monoclonal	95 ± 18	DB-201841 Monoclonal	166 ± 29

All values are presented as mean ± standard deviation.



Western blot (WB) analysis shows specific detection of GST tag using DB anti-GST mAb clones:

- **W1** Immunodetection of recombinant Uracil-DNA glycosylase (25 kDa) as a negative control.
- **W2** Immunodetection of recombinant Uracil-DNA glycosylase fused with GST tag (55 kDa).

Literature

1. Harper S., Speicher D. W. Purification of proteins fused to glutathione S-transferase. Protein chromatography: Methods and protocols. Totowa, NJ: Humana Press, 259 – 80 (2010).



DRUG DISCOVERY

DIANA assay for high throughput screening and selectivity profiling of enzyme inhibitors.



PCR ENZYMES & REAGENTS

Robust PCR mixes and engineered enzymes with superior properties.

MULTIDISCIPLINARY EXPERTISE

Founded in 2018 as an academic spin-off based on unique DIANA technology for drug discovery and diagnostics, DIANA Biotechnologies brings deep expertise in molecular biology, chemistry and informatics. All operations are based in the heart of Europe: Prague, Czech Republic.

SEPSIS DIAGNOSTICS

Rapid and ultra-sensitive PCR detection of pathogens from blood for sepsis diagnostics.



Learn more about our other segments



DIANA
BIOTECHNOLOGIES



www.dianabiotech.com



antibodies@dianabiotech.com

DIANA Biotechnologies is a Czech biotech company that advances research and development. Powered by a team of top scientists in molecular biology, chemistry, pharmacology, and automation, we provide R&D services and products for academic labs, biotech companies, and pharmaceutical partners. Our offerings include the development of monoclonal antibodies, engineered PCR enzymes and drug discovery services.