

Supplementary Materials

Title:

Butyric acid, a gut bacteria metabolite, lowers arterial blood pressure via colon-vagus nerve signalling and GPR41/43 receptors.

INTRAVENOUS ADMINISTRATION

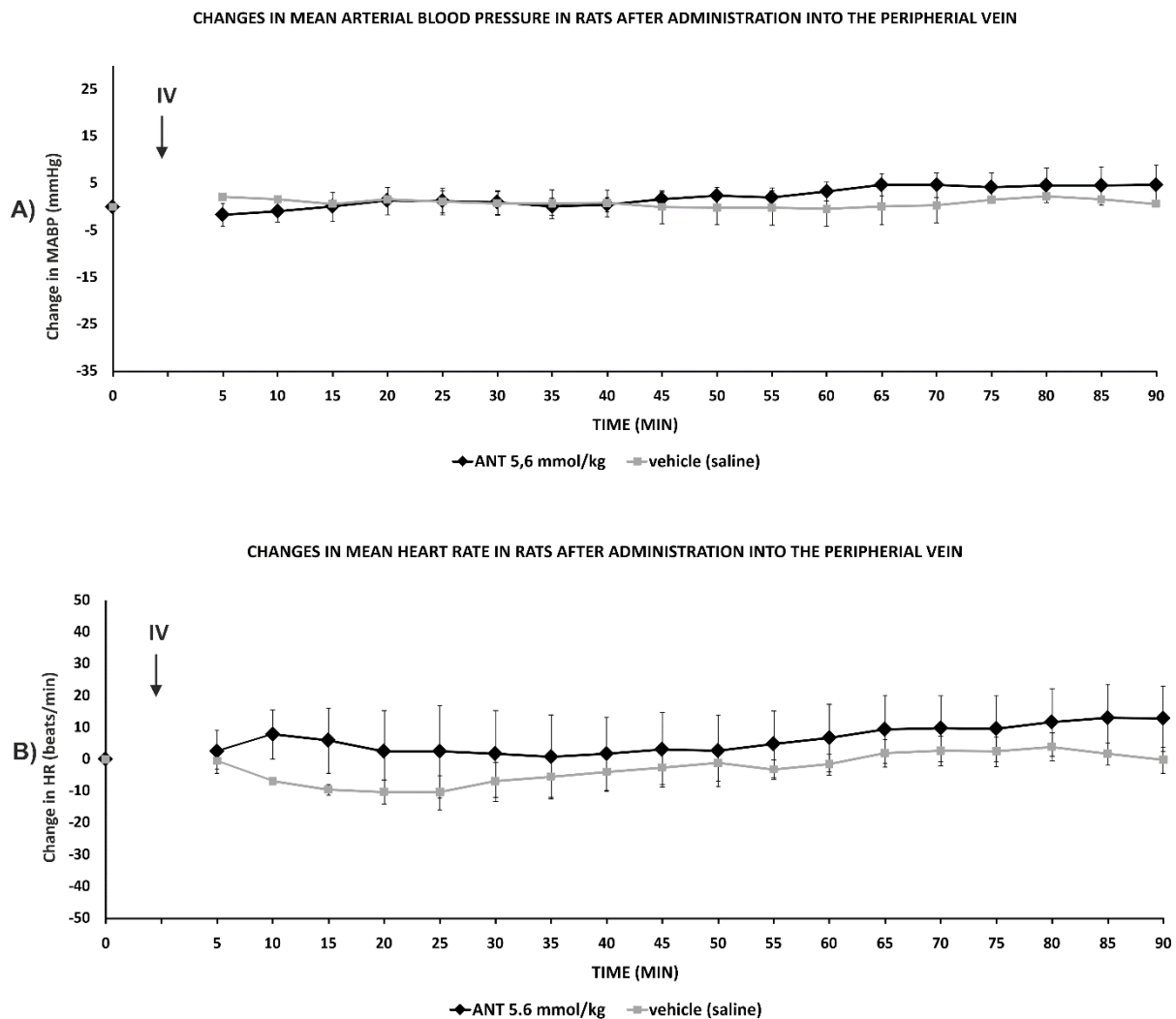
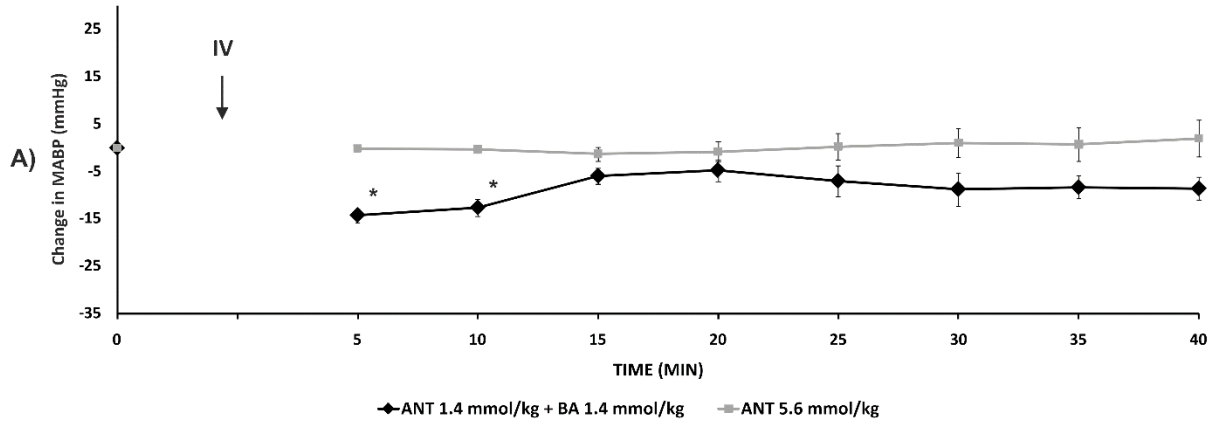


Figure S1.

[A] Changes in mean arterial blood pressure (Δ MABP, mmHg) and [B] heart rate (Δ HR, beats/min) in Wistar rats after the intravenous administration (IV) of either a vehicle (saline 0.2 ml/2min) or ANT at a dose of 5.6 mmol/kg. Means \pm SE are presented.

* - vs Baseline

CHANGES IN MEAN ARTERIAL BLOOD PRESSURE IN RATS AFTER ADMINISTRATION INTO THE PERIPHERAL VEIN



CHANGES IN MEAN HEART RATE IN RATS AFTER ADMINISTRATION INTO THE PERIPHERAL VEIN

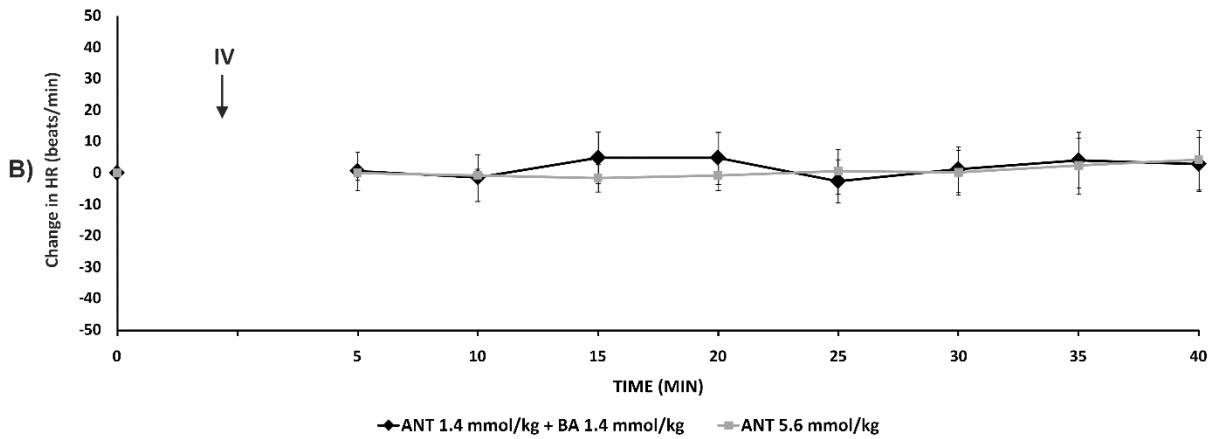
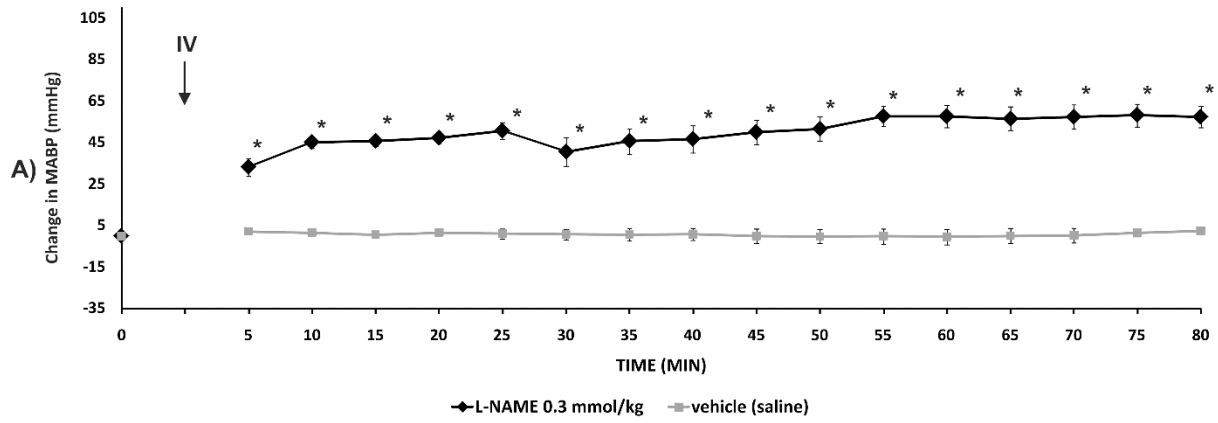


Figure S2.

[A] Changes in mean arterial blood pressure (Δ MABP, mmHg) and [B] heart rate (Δ HR, beats/min) in Wistar rats after the intravenous administration (IV) of BA at a dose of 1.4 mmol/kg after the pretreatment with the ANT at a dose of 1.4 mmol/kg b.w. Means \pm SE are presented.

* - vs Baseline

CHANGES IN MEAN ARTERIAL BLOOD PRESSURE IN RATS AFTER ADMINISTRATION INTO THE PERIPHERAL VEIN



CHANGES IN MEAN HEART RATE IN RATS AFTER ADMINISTRATION INTO THE PERIPHERAL VEIN

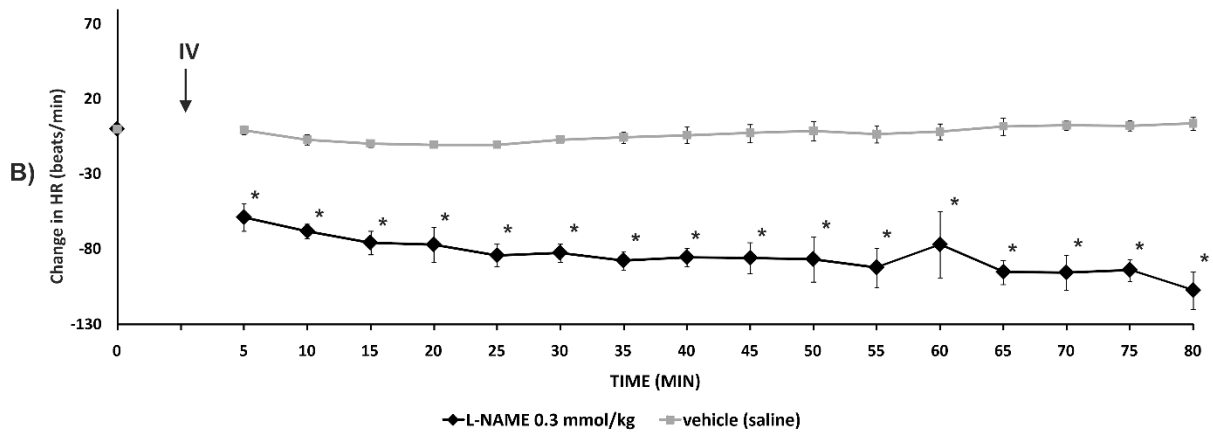
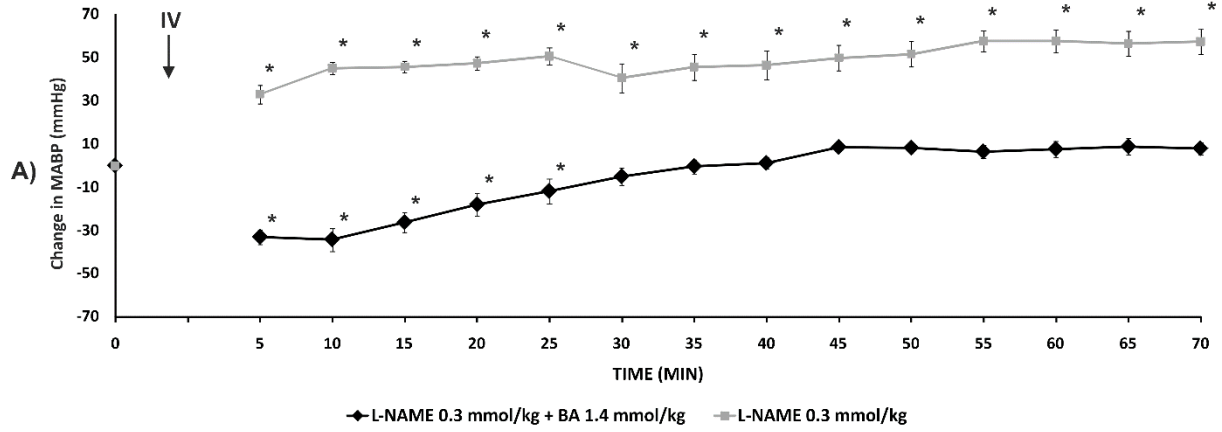


Figure S3.

[A] Changes in mean arterial blood pressure (Δ MABP, mmHg) and [B] heart rate (Δ HR, beats/min) in Wistar rats after the intravenous administration (IV) of L-NAME at a dose of 0.3 mmol/kg b.w. Means \pm SE are presented.

* - vs Baseline

CHANGES IN MEAN ARTERIAL BLOOD PRESSURE IN RATS AFTER ADMINISTRATION INTO THE PERIPHERAL VEIN



CHANGES IN MEAN HEART RATE IN RATS AFTER ADMINISTRATION INTO THE PERIPHERAL VEIN

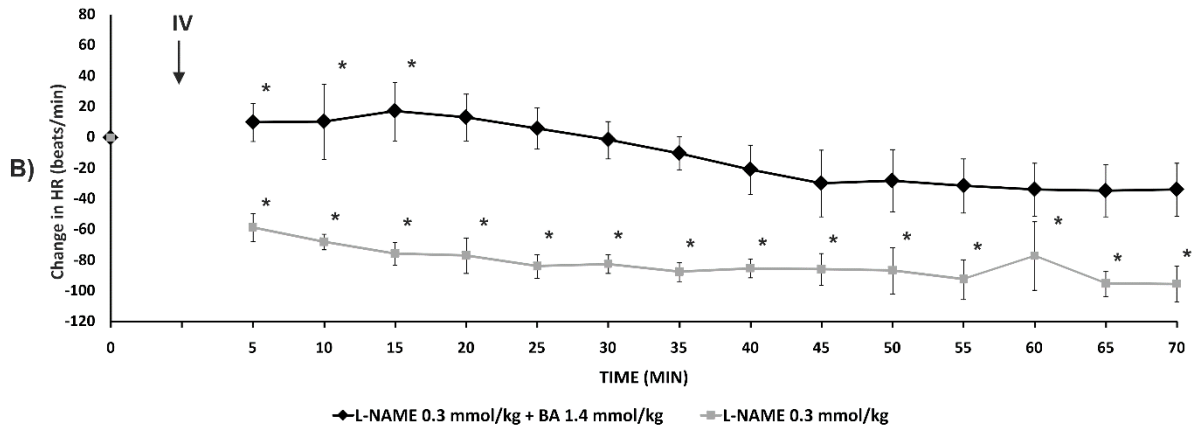


Figure S4.

[A] Changes in mean arterial blood pressure (Δ MABP, mmHg) and **[B]** heart rate (Δ HR, beats/min) in Wistar rats after the intravenous administration (IV) of BA at a dose of 1.4 mmol/kg after the pretreatment with L-NAME at a dose of 0.3 mmol/kg b.w. Means \pm SE are presented.

* - vs Baseline

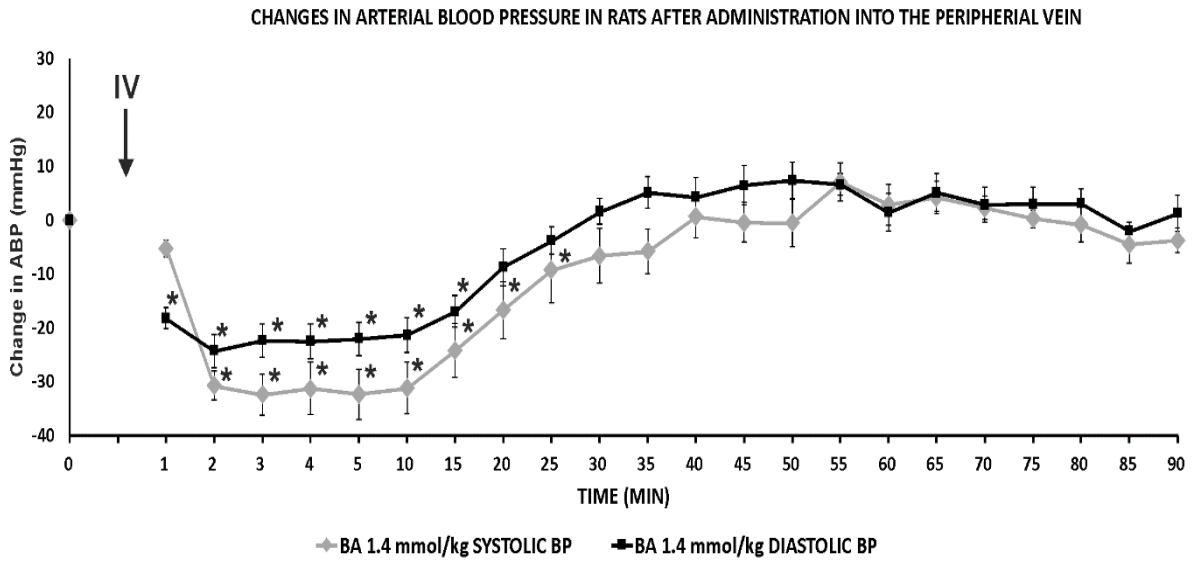


Figure S5.

Changes in arterial blood pressure (Δ ABP, mmHg) in Wistar rats after the intravenous administration (IV) of BA at a dose of 1.4 mmol/kg. Means \pm SE are presented.

* - vs Baseline

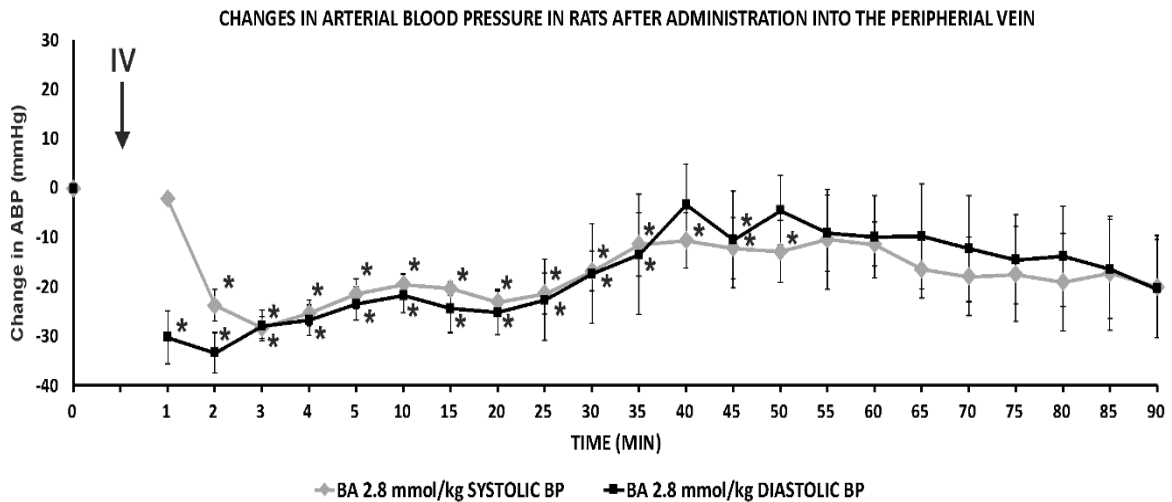


Figure S6.

Changes in arterial blood pressure (Δ ABP, mmHg) in Wistar rats after the intravenous administration (IV) of BA at a dose of 2.8 mmol/kg. Means \pm SE are presented.

* - vs Baseline

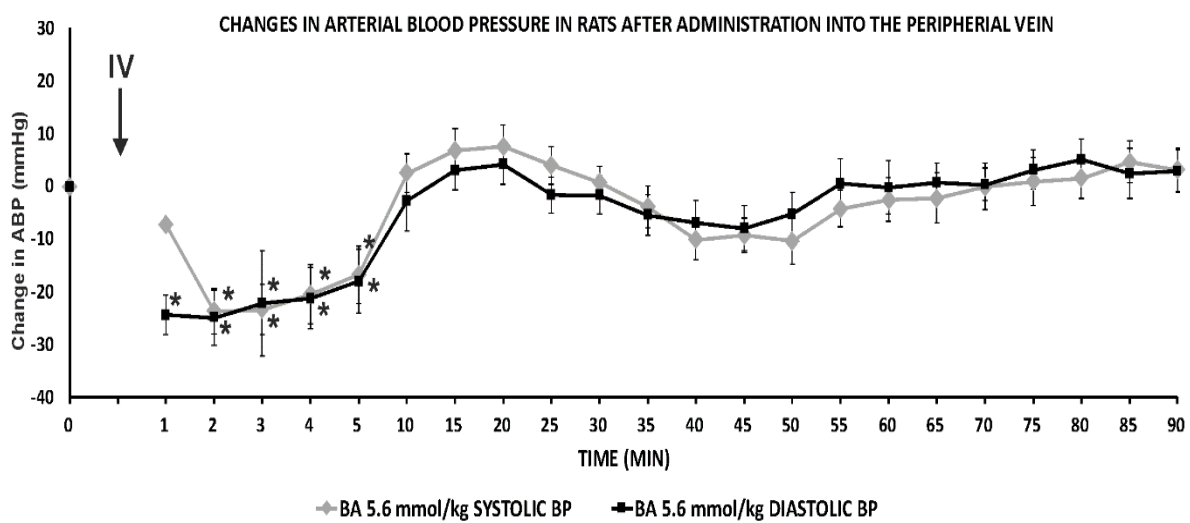


Figure S7.

Changes in arterial blood pressure (Δ ABP, mmHg) in Wistar rats after the intravenous administration (IV) of BA at a dose of 5.6 mmol/kg. Means \pm SE are presented.

* - vs Baseline

ADMINISTRATION INTO THE COLON

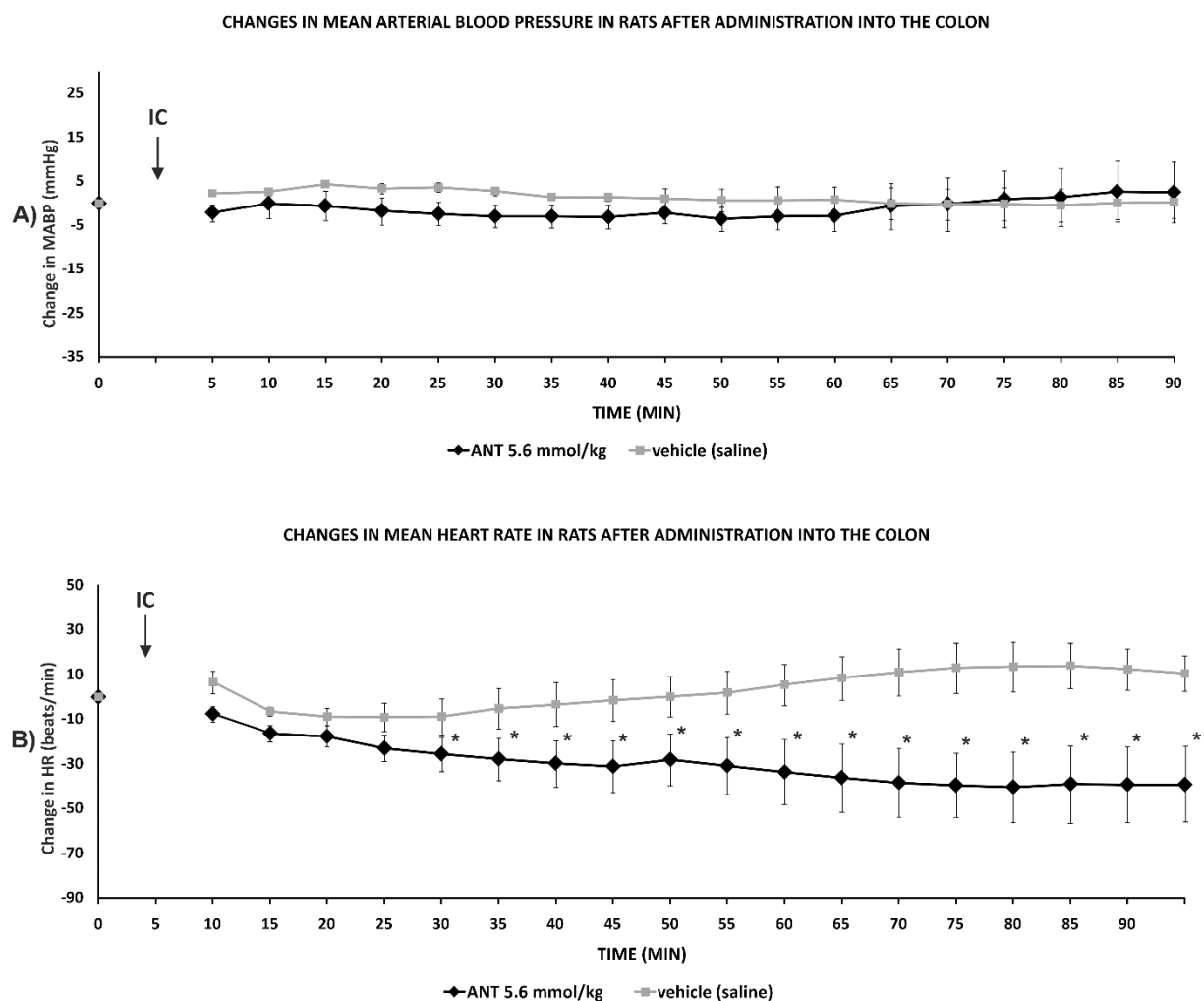


Figure S8.

[A] Changes in mean arterial blood pressure (Δ MABP, mmHg) and [B] heart rate (Δ HR, beats/min) in Wistar rats after administration into the colon (IC) of either a vehicle (saline, 0.25 ml/30s) or ANT at a dose of 5.6 mmol/kg b.w. Means \pm SE are presented.

* - vs Baseline

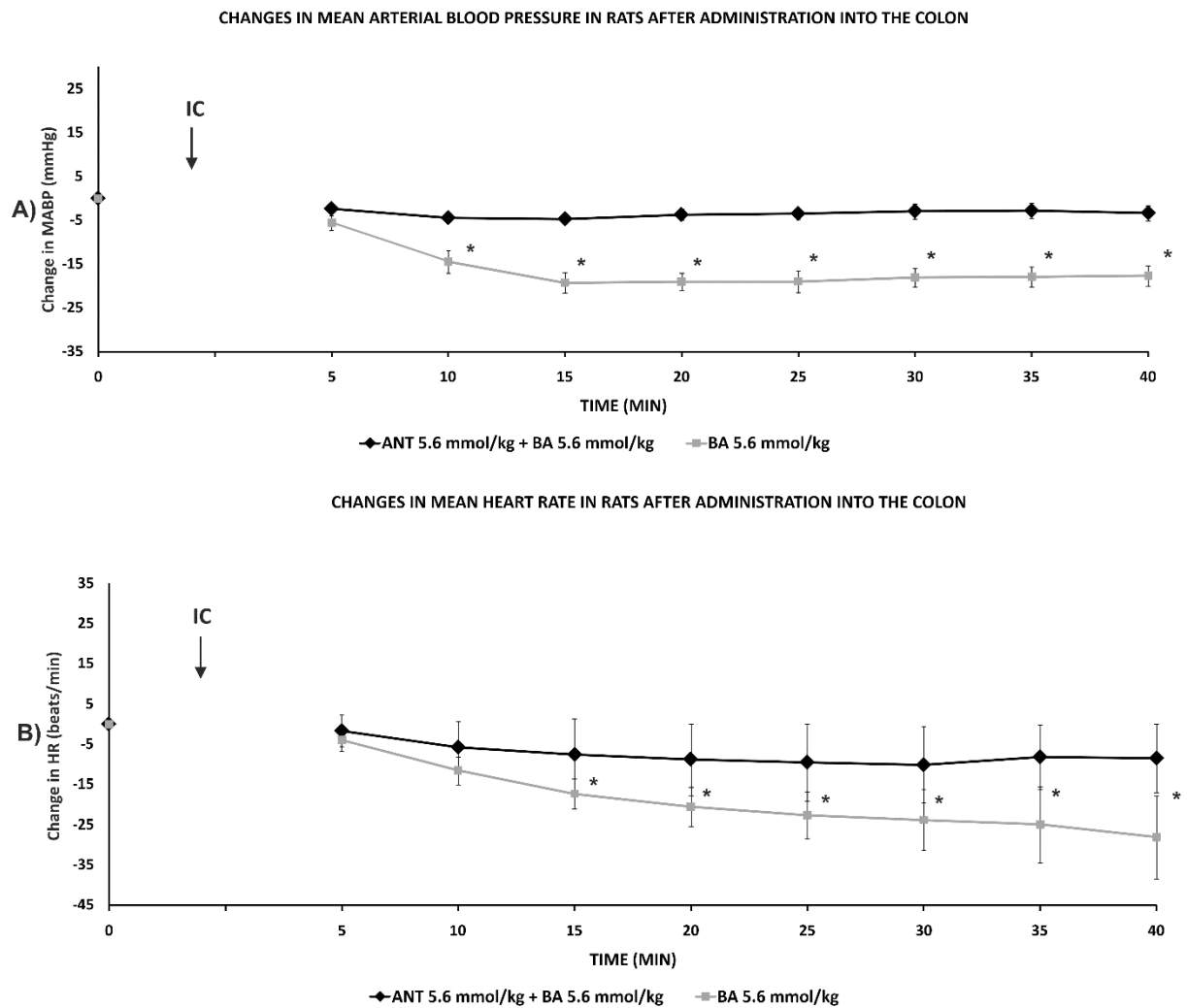
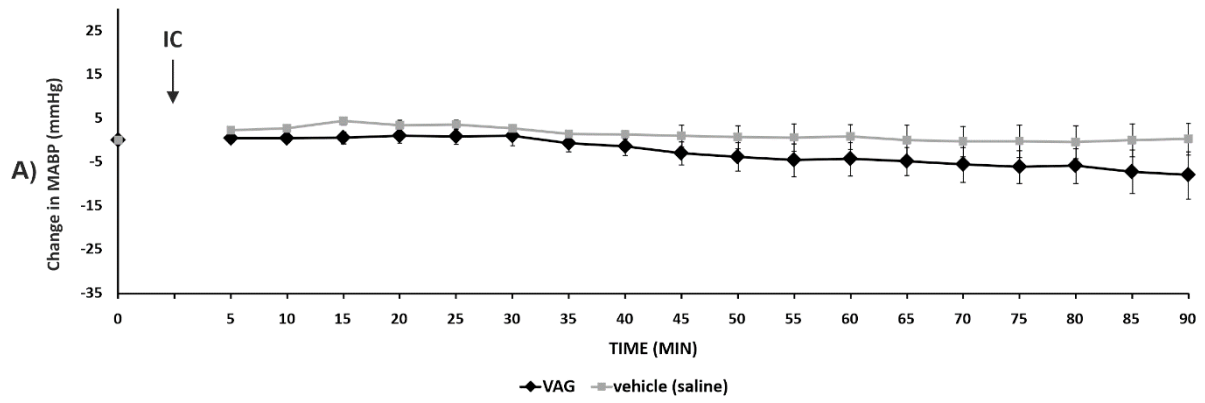


Figure S9.

[A] Changes in mean arterial blood pressure (Δ MABP, mmHg) and [B] heart rate (Δ HR, beats/min) in Wistar rats after administration into the colon (IC) of BA at a dose of 5.6 mmol/kg b.w. after the pretreatment with the ANT at the dose of 5.6 mol/kg b.w. Means \pm SE are presented.

* - vs Baseline

CHANGES IN MEAN ARTERIAL BLOOD PRESSURE IN RATS AFTER ADMINISTRATION INTO THE COLON



CHANGES IN MEAN HEART RATE IN RATS AFTER ADMINISTRATION INTO THE COLON

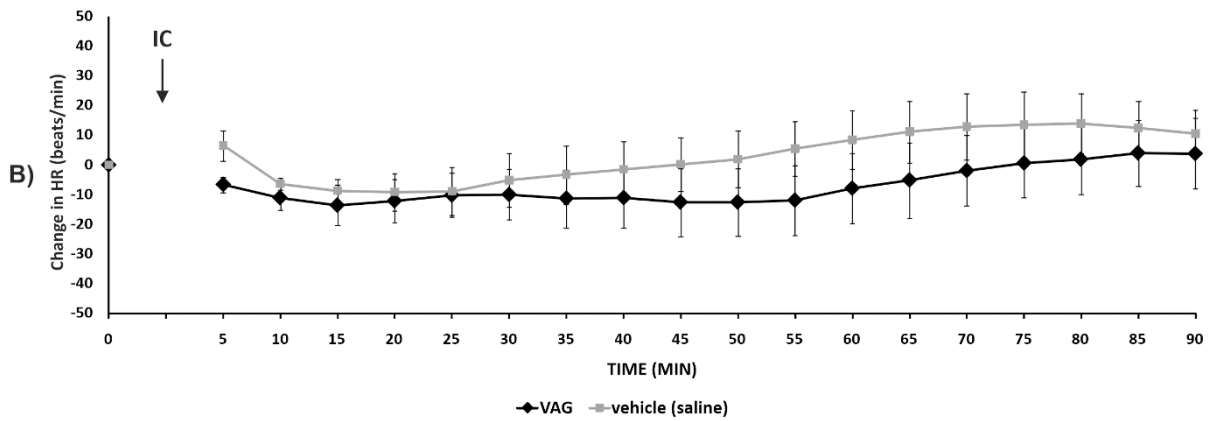
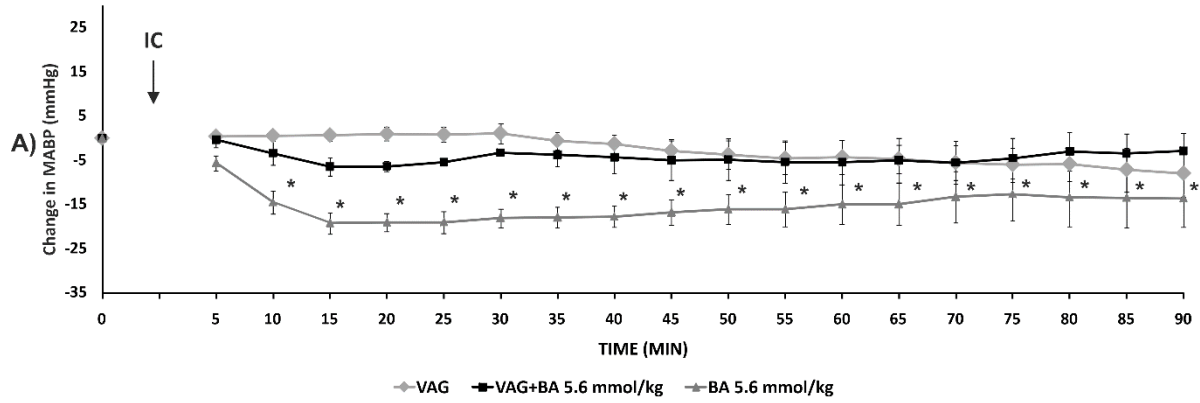


Figure S10.

[A] Changes in mean arterial blood pressure (Δ MABP, mmHg) and [B] heart rate (Δ HR, beats/min) in Wistar rats after the subphrenical vagotomy. Means \pm SE are presented.

* - vs Baseline

CHANGES IN MEAN ARTERIAL BLOOD PRESSURE IN RATS AFTER ADMINISTRATION INTO THE COLON



CHANGES IN MHEART RATE IN RATS AFTER ADMINISTRATION INTO THE COLON

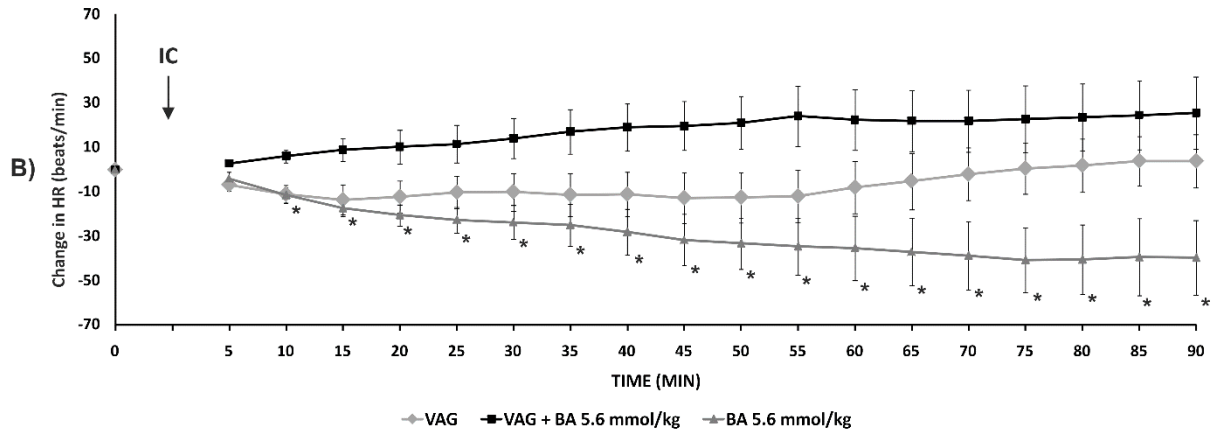
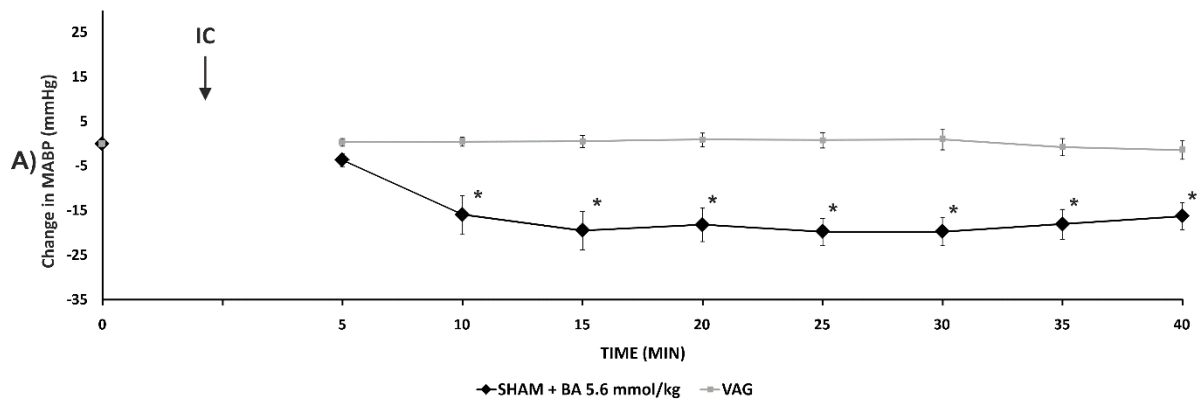


Figure S11.

[A] Changes in mean arterial blood pressure (Δ MABP, mmHg) and [B] heart rate (Δ HR, beats/min) in Wistar rats after administration into the colon (IC) of BA at a dose of 5.6 mmol/kg b.w. after the subphrenical vagotomy. Means \pm SE are presented.

* - vs Baseline

CHANGES IN MEAN ARTERIAL BLOOD PRESSURE IN RATS AFTER ADMINISTRATION INTO THE COLON



CHANGES IN MEAN HEART RATE IN RATS AFTER ADMINISTRATION INTO THE COLON

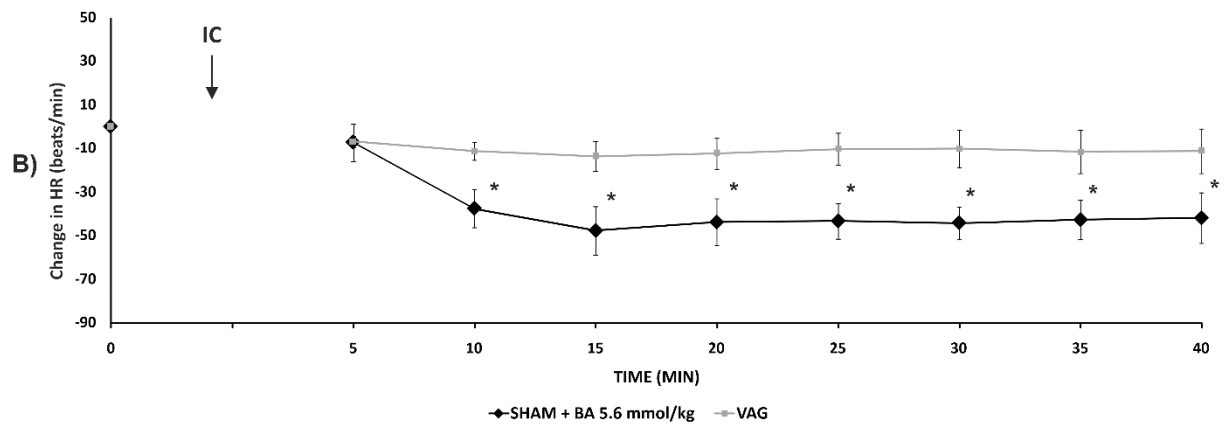


Figure S12.

[A] Changes in mean arterial blood pressure (Δ MABP, mmHg) and [B] heart rate (Δ HR, beats/min) in Wistar rats after administration into the colon (IC) of BA at a dose of 5.6 mmol/kg b.w after shame surgery. Means \pm SE are presented.

* - vs Baseline

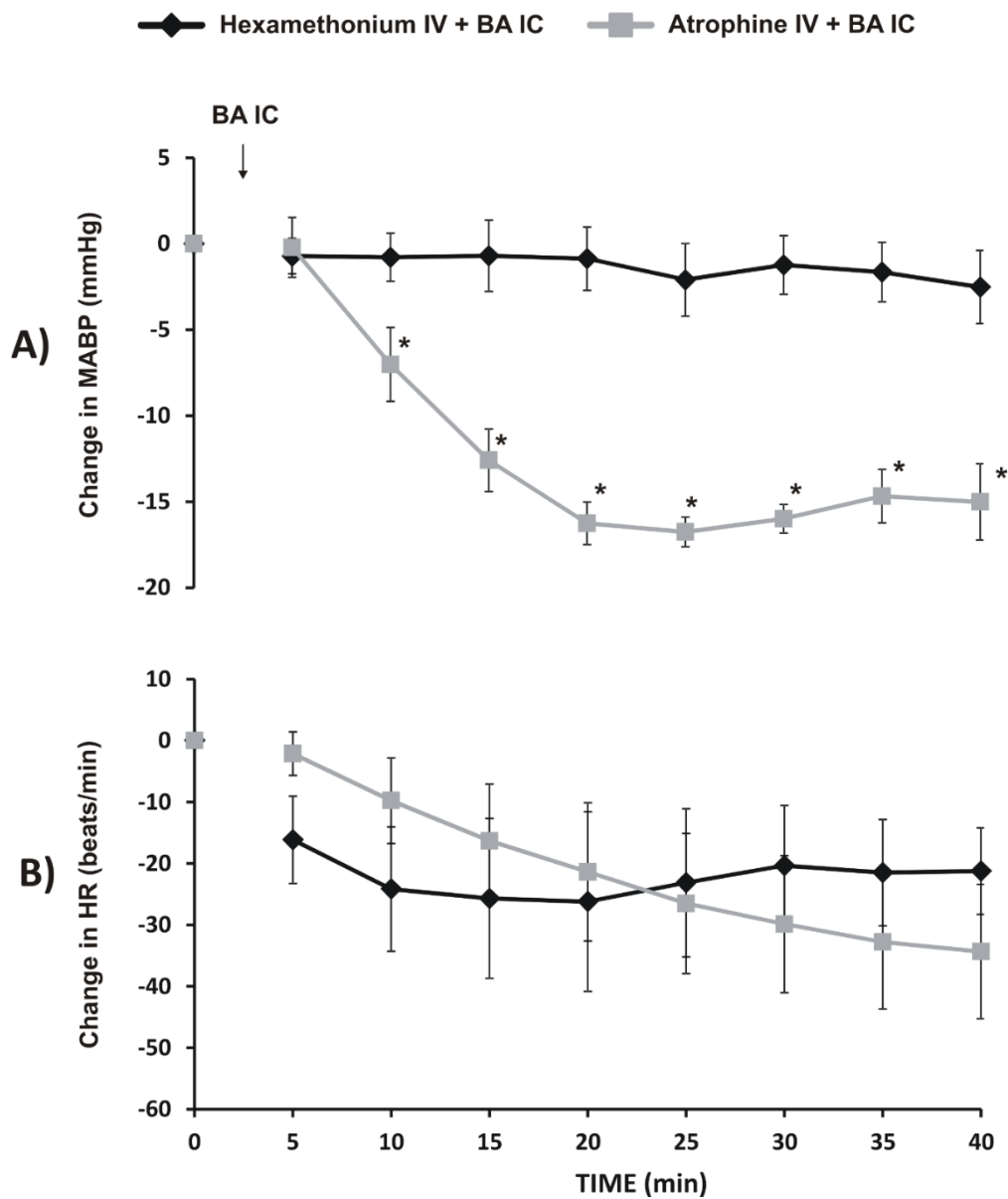


Figure S13.

Changes in mean arterial blood pressure (Δ MABP, mmHg) and heart rate (Δ HR, beats/min) in Wistar rats after the intracolonic administration of BA (BA IC) at a dose of 5.6 mmol/kg in rats pretreated with [A] hexamethonium (hexamethonium IV + BA IC) or [B] atropine (atropine IV + BA IC). Means \pm SE are presented

*-p<0.05 - vs baseline.

CHANGES IN MEAN ARTERIAL BLOOD PRESSURE IN RATS AFTER ADMINISTRATION INTO THE COLON

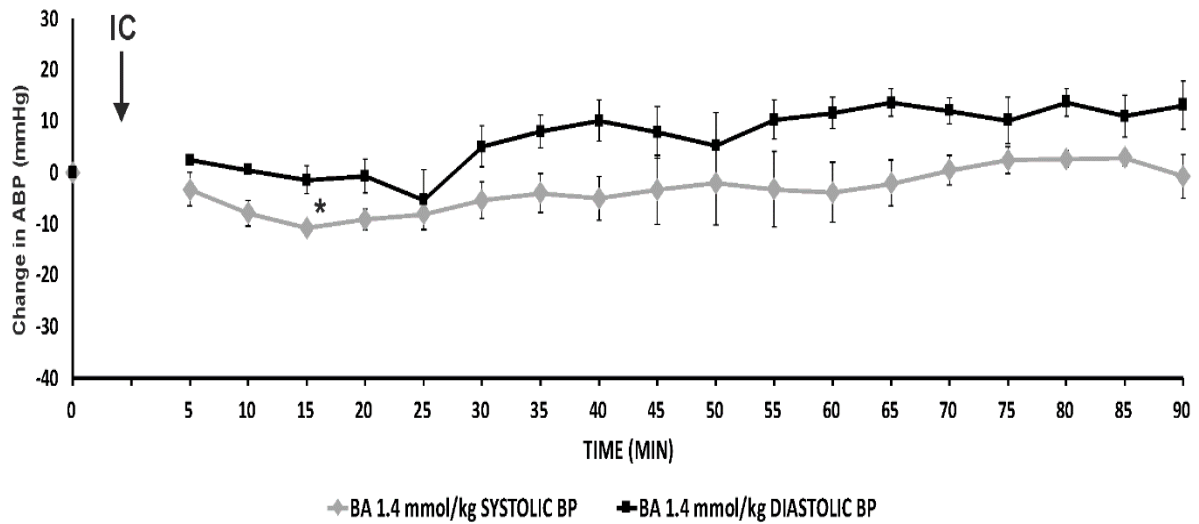


Figure S14.

Changes in arterial blood pressure (Δ ABP, mmHg) in Wistar rats after the intracolonic administration (IV) of BA at a dose of 1.4 mmol/kg. Means \pm SE are presented.

* - vs Baseline

CHANGES IN MEAN ARTERIAL BLOOD PRESSURE IN RATS AFTER ADMINISTRATION INTO THE COLON

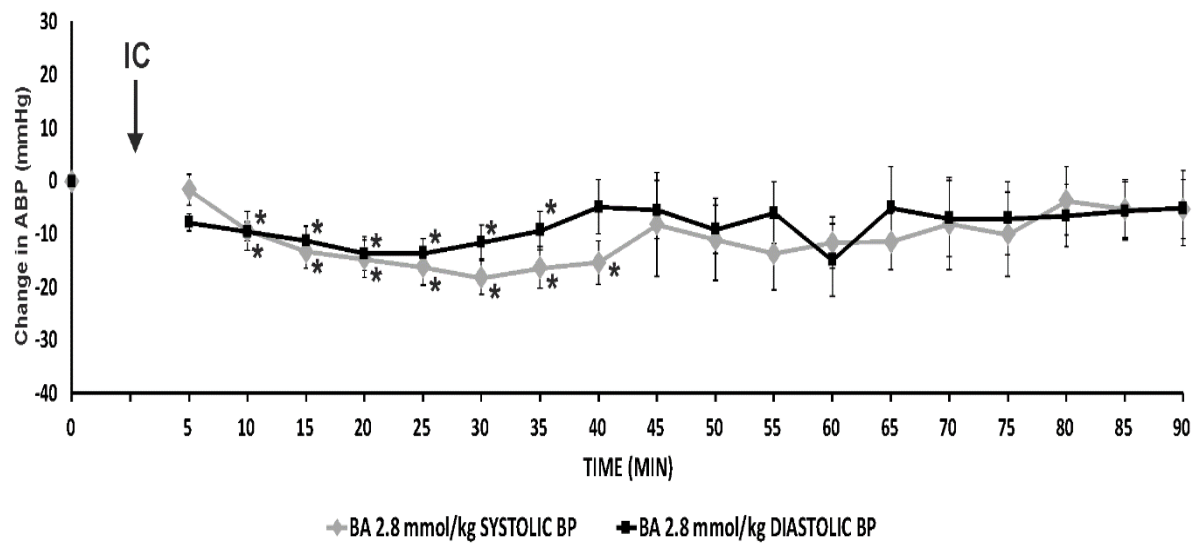


Figure S15.

Changes in arterial blood pressure (Δ ABP, mmHg) in Wistar rats after the intracolonic administration (IV) of BA at a dose of 2.8 mmol/kg. Means \pm SE are presented.

* - vs Baseline

CHANGES IN MEAN ARTERIAL BLOOD PRESSURE IN RATS AFTER ADMINISTRATION INTO THE COLON

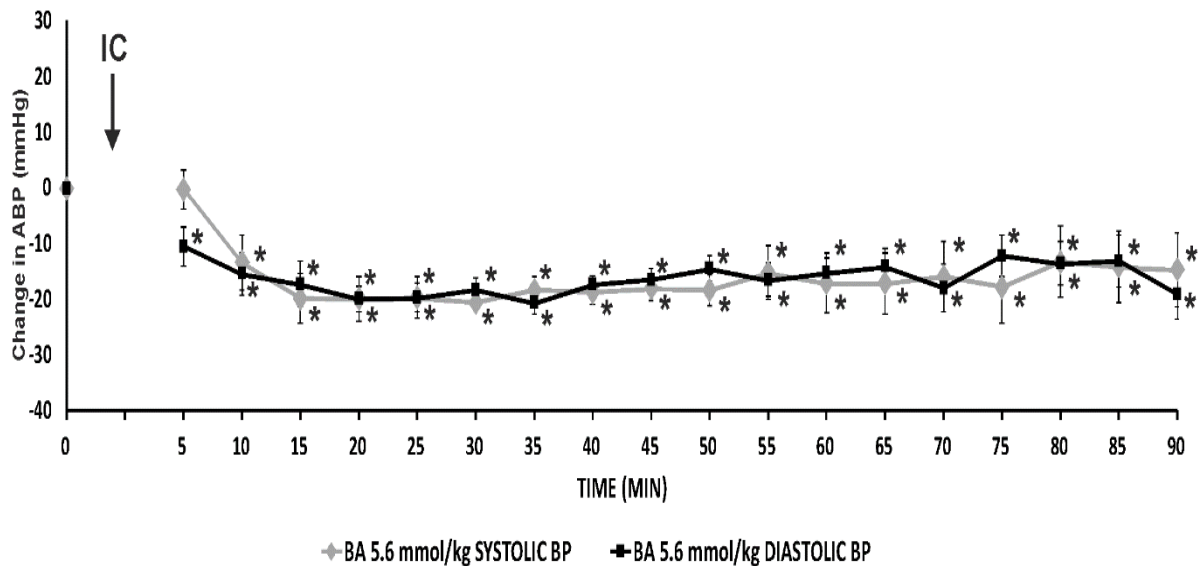


Figure S16.

Changes in arterial blood pressure (Δ ABP, mmHg) in Wistar rats after the intracolonic administration (IV) of BA at a dose of 5.6 mmol/kg. Means \pm SE are presented.

* - vs Baseline