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ARHGEF11 affecting the placental insulin signaling pathway in fetal macrosomia of normal glucose tolerance pregnant women

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1 ARHGEF11 Affecting the Placental Insulin Signaling Pathway in Fetal

2 Macrosomia of Normal Glucose Tolerance Pregnant Women

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8 **Keywords:** macrosomia; ARHGEF11; insulin signaling pathway

9 Abstract

10 **Introduction:** Fetal macrosomia has confirmed be related to multiple labor
11 complications and metabolism syndromes later in life. However, the mechanism
12 of fetal macrosomia in normal glucose tolerance (NGT) and gestational diabetes
13 mellitus (GDM) pregnant women is still obscure. This study aimed to
14 investigate the mechanism of Rho guanine nucleotide exchange factor 11
15 (ARHGEF11) and the insulin signaling pathway in placenta affecting fetal
16 overgrowth in NGT and GDM pregnant women.

17 **Methods:** Eighty-nine pregnant women with paired antepartum BMI were
18 recruited and divided them into four groups: NGT with normal birth weight
19 (NGT-N, n=30) or macrosomia (NGT-M, n=22) and GDM with normal birth
20 weight (GDM-N, n=22) or macrosomia (GDM-M, n=15). Placenta tissue was
21 collected to examine the expression of ARHGEF11, ROCK1, the
22 phosphorylation of Tyr612 IRS-1 (p-Y612), Ser307 IRS-1 (p-S307), PI3K, AKT,

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