

#### DESCRIPTION

|                           |   |
|---------------------------|---|
| <b>Species Reactivity</b> | Human   |
| <b>Specificity</b>        | Detects human URB in direct ELISAs and Western blots.   |
| <b>Source</b>             | Polyclonal Goat IgG   |
| <b>Purification</b>       | Antigen Affinity-purified   |
| <b>Immunogen</b>          | Mouse myeloma cell line NS0-derived recombinant human URB<br>Met129-Tyr950<br>Accession # Q76M96  |
| <b>Formulation</b>        | Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.<br>*Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS. |

#### APPLICATIONS

**Please Note:** Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

|                     | <b>Recommended Concentration</b> | <b>Sample</b>                             |
|---------------------|----------------------------------|---|
| <b>Western Blot</b> | 0.1 µg/mL                        | Recombinant Human URB (Catalog # 3410-UR) |

#### PREPARATION AND STORAGE

|                                |  |
|--------------------------------|--|
| <b>Reconstitution</b>          | Reconstitute at 0.2 mg/mL in sterile PBS.  |
| <b>Shipping</b>                | The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.<br>*Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C   |
| <b>Stability &amp; Storage</b> | <b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b> <ul style="list-style-type: none"> <li>● 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>● 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>● 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul> |

#### BACKGROUND

URB (upregulated in BRS-3 deficient mice) is a 150 kDa, secreted glycoprotein that belongs to the sushi-repeat-containing protein superfamily (1, 2). Sushi repeats, otherwise known as short consensus repeats (SCRs), are 60 amino acid (aa) sequences usually involved in protein-protein interaction. They are characterized by the presence of four Cys, two Pro, one Gly and one Trp (3). Human URB is synthesized as a 950 aa precursor that contains a 21 aa signal sequence and a 929 aa mature region. The mature molecule contains three extended sushi/SCR domains of approximately 140 aa each. They bear resemblance to the fifth sushi-repeat in human SPRX (4). The three lie between aa 141-281, 615-760, and 771-913, respectively. Between the first and second SCR lie two amino acid-rich regions, a Thr-rich domain (aa 347-404), and a Lys-rich domain (aa 487-588). Three potential N-linked glycosylation sites exist in the last two SCR's, while six potential bipartite nuclear localization signals (NLS) occur between aa 420-780. There are two potential alternate splice forms for human URB. One is 594 aa in length, and shows a simple truncation at Ser594. This effectively removes the second and third SCRs and two bipartite NLS (5). The second is 553 aa in length and shows a simple truncation after Lys553. This eliminates four bipartite NLSs, the second and third SCRs, and part of the Lys-rich domain (6). Full-length human URB is 83%, 84% and 87% aa identical to rat, mouse and bovine URB, respectively. URB is found in chondrocytes and appears to be downregulated upon CFU-Fibroblast differentiation (1). Thus, it may play a role in skeletogenesis.

#### References:

1. Liu, Y. *et al.* (2004) *Biochem. Biophys. Res. Commun.* **322**:497.
2. Aoki, K. *et al.* (2002) *Biochem. Biophys. Res. Commun.* **290**:1282.
3. Anatova, J. *et al.* (1989) *Biochemistry* **28**:4754.
4. Meindl, A. *et al.* (1995) *Hum. Mol. Genet.* **4**:2339.
5. Isogai, T. *et al.* (2002) GenBank Accession # BAC11475.
6. Strausberg, R.L. *et al.* (2002) GenBank Accession # AAH86876.